

Specifications for the
Repair of
USCGC HICKORY (WLB-212)

January 2009
Rev 0

UNITED STATES COAST GUARD
MAINTENANCE AND LOGISTICS COMMAND PACIFIC
NAVAL ENGINEERING DIVISION
RONALD V. DELLUMS FEDERAL BUILDING
1301 CLAY STREET, SUITE 807N
OAKLAND, CALIFORNIA 94612-5249

Table of Contents

Item	SWBS	Description	Page
		Vessel Description	ii
		Consolidated List of References	iii
		Consolidated List of Government Furnished Property	vii
		General Requirements — Dockside, Home Port	1
D-1	04100	Production Control, Gantt Bar Chart Provide	20
D-2	24500	Underwater Propeller Clean and Inspect	22
D-3	25900	MDE Exhaust Stacks Commercial Clean	24
D-4	25900	SSDG Exhaust Stacks Commercial Clean	27
D-5	31100	Electric Meter Calibration	29
D-6	32000	Inspect and Test Circuit Breakers, 60 Hz	33
D-7	43700	Level Wind Arm Safety Interlock Installation	38
D-8	50400	Pressure Gauges and Thermometers (Critical) Calibration	46
D-9	50400	Pyrometers and Thermocouples (Critical) Calibration	54
D-10	50600	FO Tank Overflow Check Valves Inspect	57
D-11	52810	Shower Deck Drain Replacement	60
D-12	56100	Steering System Relief Valves Renew	69
D-13	58900	Buoy and Cargo Handeling Crane Wire Rope Renewal	72
D-14	59310	Grey_Water_Holding_Tank_Clean_And_Inspect	82
D-15	59310	Oil Content Meter Calibration	85
D-16	59310	Sewage Holding Tank and Atmospheric Tank Clean & Inspect	90
D-17	63400	Deck Coverings (Interior Polymeric) Reseal	94
D-18	86351	Temporary Services, Dockside, Home Pier	96

Definite work items are identified by a “D” preceding the item number in the table above. Optional work items are designated by an “O” and shall be individually priced for possible performance.

CUTTER DESCRIPTION — USCGC HICKORY (WLB 212)

[Design Class: 225B-WLB]

Hull Characteristics:

Length Overall	225' 0"
Length, Between Perpendiculars	206' 0"
Beam, Molded	46' 0"
Designed Draft	13' 0"
Displacement, Full Load	2,000 L. tons
Displacement, Light Ship	1523 L. tons
Displacement, Minimum Operating	1800 L. tons
Frame Spacing	
Frames 0-12:	21"
Frames 12-30:	22"
Frames 30-102	24"
Hull Material	Steel
Mast Height (Above 12' Waterline)	67' 5" (Approximately)
Bilge Keels (Port & Starboard)	Frames 42 to 79
Rudder	One
Ground Tackle	Two 4000 lb Standard Navy Stockless Anchors, 8 shots each, port and starboard, 1-3/8 Die-lock chain

Machinery Characteristics:

Main Propulsion	Diesel Reduction
Diesel Engines	Two Caterpillar 3608, TA, 3100 BHP each, at 900 RPM
Propeller	One 10' diameter, reversible pitch, 4 blade
Ship's Service Diesel Generators	Two Caterpillar 3508 TA rated at 450 kW
Emergency Diesel Generator	One Caterpillar 3406 DITA rated at 280 kW
Shore Tie	Two 450 VAC, 400 Amp, 3-wire
Shaft Bearing, Forward	Cooper Bearing 01-BCP-1400-EX-TL
Shaft Bearing, Aft	Water Lubricated Cutless Bearing E2-2934

Tank Capacities:

Diesel Oil Capacity	76,498 gallons
Fresh Water Capacity	8,056 gallons
Hydraulic Oil Capacity	2,785 gallons
Lube Oil Storage	764 gallons
Grey Water Tank	2700 gallons
Sewage Holding Tank	1700 gallons

Crew Size:

Number Of Crew	35
Number Of Officers	6
Number of Females	5

CONSOLIDATED LIST OF REFERENCES

Drawings

225-WLB 573-206, Rev B; Integrated Buoy Handling Control System
225-WLB 573-7, Rev B; Cargo Hatch Control Block and Schematic
225-WLB 601-001, Rev J; General Arrangement Inboard & Outboard Profiles
225B-WLB 437-1, Rev B; Tank Level Ind Systems Block, Wiring Deck Plan & E
225B-WLB 506-1, Rev F; Overflows, Air Escapes & Sndg Tubes Diagram
225B-WLB 561-1, Rev B; Steering Gear Hydraulics Diagram
225B-WLB 561-3, Rev A; Steering Gear Arrangement
225B-WLB 562-1, Rev D; Steering Components Arrangement and Detail
225B-WLB 597-2, Rev B; Oily Recovery System Diagram
225B-WLB 259-001, Rev C; Combustion Intake & Exhaust Diagram
225B-WLB 259-005, Rev C; Combustion Intak & Exhaust A&D Hull Block 940
225B-WLB 259-006, Rev B; Combustion Intake & Exhaust A&D Hull Block 970 & 975
225B-WLB 259-1, Rev C; Combustion Intake & Exhaust Diagram
225B-WLB 259-5, Rev C; Combustion Intake & Exhaust A&D Hull Block 940
225B-WLB 259-6, Rev B; Combustion Intake & Exhaust A & D Hull Block 970 & 975
225B-WLB 320-001, Rev A; Electrical One-Line Diagram
225B-WLB 528-1, Rev C, Plumber & Interior Deck Drains
225B-WLB 593-1, Rev C, Sewage and Waste Water System Diagram
225B-WLB 593-9, Rev A, Sewage Holding Tank
225B-WLB 601-2, Rev A, Booklet of General Drawings
225B-WLB-644-1, Rev C, Sanitary Facilities & Laundry Space Arrgt & Dets

Applicable Documents

[15 USC §2601 to 2692, Toxic Substance Control Act \(TSCA\)](#)
[16 CFR §1303, Ban of Lead-Containing Paint and Certain
Consumer Products Bearing Lead-Containing Paint](#)
[29 CFR §1910, Occupational Safety and Health Standards](#)
[29 CFR §1915, Occupational Health and Safety Standards for
Shipyard Employment](#)
[29 CFR §1926, Safety and Health Regulations for
Construction](#)
[29CFR1910.401; Commercial Diving Operations](#)
[33 CFR §154, Facilities Transferring Oil or Hazardous
Materials in Bulk](#)
[33 USC §1251 to 1387, Federal Water Pollution Control Act](#)
[33 USC §1342, National Pollutant Discharge Elimination
System](#)
[33 USC §2701 to 2761, Oil Pollution Control Act of 1990](#)
[40 CFR §112, Oil Pollution Prevention](#)
[40 CFR §204, Noise Emission Standards for Construction
Equipment](#)
[40 CFR §261, Identification and Listing of Hazardous Waste](#)
[40 CFR §262, Standards Applicable to Generators of
Hazardous Waste](#)
[40 CFR §263, Standards Applicable to Transporters of
Hazardous Waste](#)
[40 CFR §279, Used Oil Management Standards](#)
[40 CFR §300, National Oil and Hazardous Substances
Pollution Contingency Plan](#)

[40 CFR §61, National Emission Standards for Hazardous Air Pollutants](#)
[40 CFR §761, Polychlorinated Biphenyls \(PCB\) Manufacturing, Processing, Distribution in Commerce, And Use Prohibitions](#)
[42 USC §4851 to 4852, Residential Lead-Based Paint Hazard Reduction Act](#)
[42 USC §4901 to 4918, Noise Control Act \(NCA\)](#)
[42 USC §6901 to 6991\(i\), Resource Conservation and Recovery Act \(RCRA\)](#)
[42 USC §7401 to 7671\(q\), Clean Air Act](#)
[42 USC §9601 to 9675, Comprehensive Environmental Response, Compensation, And Liability Act \(CERCLA\)](#)
[49 CFR §100-199, Hazardous Materials Transportation, Handling, And Storage Regulations](#)
[7 USC §136 to 136\(y\), Federal Insecticide, Fungicide, And Rodenticide Act \(FIFRA\)](#)
[American National Standards Institute \(ANSI/NCSL\) Z540.1, Rev 1994 \(R2002\), 8/1/1994; General Requirements for Calibration and Measuring and Test Equipment](#)
[American Society of Mechanical Engineers \(ASME\) B16.11, Forged Steel Fittings, Socket-Welding and Threaded, 2001](#)
[American Society of Mechanical Engineers \(ASME\) B16.9, Factory-Made Wrought Butt welding Fittings , 2003](#)
CG Tech Pub 3524, 1/7/1997; Manufacturer's Instruction Book-SWBS Group(s) 243-262
CG Tech Pub 3534A, 1, Manufacturer's Instruction Book--SWBS Group(s) 324, 3/9/2000
CG Tech Pub 3555, 5/21/1996; Steering Gear Systems
CG Tech Pub 3557, 1/7/1997; Manufacturer's Instruction Book-SWBS Group(s) 568-573
CG Tech Pub 3564, 4/21/1997; Manufacturer's Instruction Book-SWBS Group(s) 593
[COMDTINST 6260.21, Hazard Communications for Work Place Materials](#)
[COMDTINST 9077.1, Equipment Tag-Out Procedure, Revision C](#)

[COMDTINST M10360.3, Coatings and Colors Manual, Revision C](#)
[COMDTINST M16478.1, Hazardous Waste Management Manual](#)
[COMDTINST M16478.2, Procurement, Handling and Disposal of Polychlorinated Biphenyls](#)
[COMDTINST M6260.16A, Asbestos Exposure Control Manual, Ch-1](#)
[COMDTINST M9000.6, Rev E; Naval Engineering Manual \(NEM\)](#)
[California Code of Regulations, Title 22, Division 4, Environmental Health and 4.5, Environmental Health Standards for the Management of Hazardous Waste](#)
[California Code of Regulations, Title 23, Waters](#)
[California Health and Safety Code, Divisions 20, Miscellaneous Health and Safety Provisions, 26, Air](#)

[Resources, 37, Regulation of Environmental Protection, 103, Disease Prevention and Health Promotion, 104, Environmental Health.](#)
[Chapter 173-303, WASHINGTON Administrative Code](#)
[Chapter 340, Oregon Administrative Rules](#)
[Federal Standard FED-STD-595B\(1\), Rev B, Not 1; Color Used in Government Procurement](#)
[MIL-A-22262, Rev B, Amd 2; Abrasive Blasting Media Ship Hull Blast Cleaning](#)
[MIL-DTL-24643, Rev B, Sup 1A; Cables and Cords, Electric, Low Smoke, For Shipboard Use, General Specification for](#)
[MIL-DTL-5624, Rev U; Turbine Fuel, Aviation, Grades JP-4 and JP-5](#)
[MIL-F-1183J SUP 1, Fittings, Pipe, Cast Bronze, Silver-Brazing, General Specifications for, 5/5/1987](#)
[MIL-G-18458, Rev B, Amd 5; Grease, Wire Rope and Exposed Gear](#)

[MIL-PRF-1149, Rev D, 6/10/1998; Gasket Materials, Synthetic Rubber, 50 and 65 Durometer Hardness](#)
[MIL-PRF-16884, Rev L; Fuel, Naval Distillate](#)
[MIL-PRF-24613, Amd 2, Not 1; Deck Covering Materials, Interior, Cosmetic Polymeric](#)
[MIL-STD-1625, Rev C, Chg Not 1; Safety Certification Program for Drydocking Facilities and Shipbuilding Ways for U.S. Navy Ships](#)
[MIL-STD-1627C, Bending of Pipe or Tube for Ship Piping System, 9/30/1994](#)
[MIL-STD-1689A, Fabrication, Welding and Inspection of Ships Structure, 11/23/1990](#)
[MIL-STD-2035A, Nondestructive Testing Acceptance Criteria, 5/15/1995](#)
[MIL-STD-22D NOT 3, Welded Joint Design, 3/21/1991](#)
[MIL-T-16420K\(1\), Tube, Copper-Nickel Alloy, Seamless and Welded \(Copper Alloy Numbers 715 and 706\), 9/16/1988](#)
[MLCPAC Standard Specification 041, 1/1/2000; Production Control, Gantt Bar Chart](#)
[MLCPAC Standard Specification 074, Welding and Allied Processes, 3/21/2003](#)
[MLCPAC Standard Specification 085.1, General Requirements for Drawing Preparation, 3/1/2000](#)
[MLCPAC Standard Specification 304.1, 3/1/2000; Shipboard Electrical Cable Test](#)
[MLCPAC Standard Specification 304.2, 3/1/2000; Shipboard Electrical Cable Removal, Relocation, Splice, Repair and Installation](#)
[MLCPAC Standard Specification 634, 3/1/2000; Deck Covering Renewal](#)
[MLCPAC Standard Specification 074, Welding and Allied Processes, 3/21/2003](#)
[NAVSEA 0900-LP-001-7000, Fabrication and Inspection of Brazed Piping Systems](#)

NAVSEA Dwg 804-1385781, Pipe Hangers for Surface Ships
(Superseding NAVSEA Dwg. 810-1385781), E
NAVSEA Dwg 810-1385880, Fittings, Cu-Ni Alloy, Slip on
Sleeve, D
NAVSEA S9074-AR-GIB-010/278, Requirements for
Fabrication Welding & Inspection & Casting Inspection
& Repair for Machinery, Piping & Pressure Vessels
NAVSEA T9074-AS-GIB-010/271, Requirements for Non-
Destructive Testing Methods, 97
NSTM S9086-RK-STM-010/CH-505R2, Naval Ships'
Technical Manual, Chapter 505, Piping Systems, 2
NSTM S9086-T8-STM-010/CH-593R4, Naval Ships'
Technical Manual, Chapter 593, Pollution Control, 4
NSTM S9086-VH-STM-010/CH-635R2, Naval Ships'
Technical Manual, Chapter 635, Thermal, Fire and
Acoustic Insulation, 2
[National Electrical Manufacturers Association \(NEMA\) AB4,
1/1/2003; Guidelines for Inspection and Preventive
Maintenance of Molded Case Circuit Breakers Used in
Commercial and Industrial Applications](#)
[National Fire Protection Association NFPA 51 Standard for
the Design and Installation of Oxygen-Fuel Gas Systems
for Welding, Cutting, And Allied Processes](#)
Naval Ships' Technical Manual, Chapter 074, Volume 1, Chg
5, Welding and Allied Processes Rev 4, 8/1/1999
Naval Ships' Technical Manual, Chapter 074, Volume 3, Gas
Free Engineering, 4/23/1998
Naval Ships' Technical Manual, Chapter 491, 1, Electrical
Measuring and Test Instruments, 9/1/1999
Naval Ships' Technical Manual, Chapter 504, 2, Pressure,
Temperature and Other Mechanical and Electrical
Measuring Instruments, 12/1/2001
Naval Ships' Technical Manual, Chapter 505, Piping Systems,
12/1/2001
Naval Ships' Technical Manual, Chapter 593, Pollution
Control
Naval Ship's Technical Manual (NSTM) Chapter 245,
Propellers, Rev 5
[Naval Ship's Technical Manual \(NSTM\) Chapter 613, Wire
and Fiber Rope and Rigging, Rev 3](#)
[Nondestructive Testing Handbook, American Society for Non-
Destructive Testing, Volume 1, Section 7](#)
[The Society for Protective Coatings SSPC-SP 11, Power Tool
Cleaning to Bare Metal](#)
[The Society for Protective Coatings SSPC-SP 3, Power Tool
Cleaning](#)
[Title 11, Hawaii Administrative Code](#)
[Title 18, Alaska Administrative Code](#)
[Underwriters Laboratories Inc. \(UL\) 489, Rev Edition 10,
5/25/2002; Molded Case Circuit Breaker](#)

CONSOLIDATED LIST OF GOVERNMENT FURNISHED PROPERTY

Description	Manufacturer	Part Number	NIIN	Qty	UOI
<i>ITEM 11: SHOWER DECK DRAIN REPLACEMENT</i>					
2" IPS copper-nickel alloy 90-10 Deck Drain with 2" trap	BESTWELD, INC.	BW #DDAV2CN9D 2T	-	13	-
<i>ITEM 13: BUOY AND CARGO HANDELING CRANE WIRE ROPE RENEWAL</i>					
Watre Bag				1	ea

GENERAL REQUIREMENTS — DOCKSIDE, HOME PORT

GR_00000_JMS_0308_Fleet

1 INTENT

This document invokes general requirements applicable to ship repair contracts for work performed at a cutter's home port pier. The items discussed in the General Requirements are an amplification of, or are in addition to, the specific items of the Specification. Other sections of the contract establish requirements for work on Coast Guard cutters. The General Requirements are a part of the contract and, as such, compliance is a contractual requirement. The Contractor is responsible for understanding and complying with all requirements established in the Specifications.

Government Furnished Property: NONE

2 REFERENCES

Coast Guard Drawings: NONE

Applicable Documents:

[COMDTINST M6260.16A, Asbestos Exposure Control Manual, Ch-1](#)
[COMDTINST 6260.21, Hazard Communications for Work Place Materials](#)
[COMDTINST 9077.1, Equipment Tag-Out Procedure, Revision C](#)
[COMDTINST M16478.1, Hazardous Waste Management Manual](#)
[COMDTINST M16478.2, Procurement, Handling and Disposal of Polychlorinated Biphenyls](#)
[COMDTINST M10360.3, Coatings and Colors Manual, Revision C](#)
[Federal Standard FED-STD-595B\(1\), Rev B, Not 1; Color Used in Government Procurement](#)
[MIL-A-22262, Rev B, Amd 2; Abrasive Blasting Media Ship Hull Blast Cleaning](#)
[MIL-DTL-5624, Rev U; Turbine Fuel, Aviation, Grades JP-4 and JP-5](#)
[MIL-PRF-16884, Rev L; Fuel, Naval Distillate](#)
[MIL-STD-1625, Rev C, Chg Not 1; Safety Certification Program for Drydocking Facilities and Shipbuilding Ways for U.S. Navy Ships](#)
[MLCPAC Standard Specification 997, 3/29/2004; Drydocking](#)[MLCPAC Standard Specification 074, Welding and Allied Processes, 3/21/2003](#)
[MLCPAC Standard Specification 085.1, General Requirements for Drawing Preparation, 3/1/2000](#)
[National Fire Protection Association NFPA 51 Standard for the Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, And Allied Processes](#)
Naval Ships' Technical Manual, Chapter 074, Volume 1, Chg 5, Welding and Allied Processes Rev 4, 8/1/1999
Naval Ships' Technical Manual, Chapter 074, Volume 3, Gas Free Engineering, 4/23/1998
[Nondestructive Testing Handbook, American Society for Non-Destructive Testing, Volume 1, Section 7](#)
[7 USC §136 to 136\(y\), Federal Insecticide, Fungicide, And Rodenticide Act \(FIFRA\)](#)
[15 USC §2601 to 2692, Toxic Substance Control Act \(TSCA\)](#)
[33 USC §1251 to 1387, Federal Water Pollution Control Act](#)
[33 USC §1342, National Pollutant Discharge Elimination System](#)
[33 USC §2701 to 2761, Oil Pollution Control Act of 1990](#)
[42 USC §4851 to 4852, Residential Lead-Based Paint Hazard Reduction Act](#)
[42 USC §4901 to 4918, Noise Control Act \(NCA\)](#)
[42 USC §6901 to 6991\(i\), Resource Conservation and Recovery Act \(RCRA\)](#)
[42 USC §7401 to 7671\(q\), Clean Air Act](#)

[42 USC §9601 to 9675, Comprehensive Environmental Response, Compensation, And Liability Act \(CERCLA\)](#)
[16 CFR §1303, Ban of Lead-Containing Paint and Certain Consumer Products Bearing Lead-Containing Paint](#)
[29 CFR §1910, Occupational Safety and Health Standards](#)
[29 CFR §1926, Safety and Health Regulations for Construction](#)
[29 CFR §1915, Occupational Health and Safety Standards for Shipyard Employment](#)
[33 CFR §154, Facilities Transferring Oil or Hazardous Materials in Bulk](#)
[40 CFR §61, National Emission Standards for Hazardous Air Pollutants](#)
[40 CFR §112, Oil Pollution Prevention](#)
[40 CFR §204, Noise Emission Standards for Construction Equipment](#)
[40 CFR §261, Identification and Listing of Hazardous Waste](#)
[40 CFR §262, Standards Applicable to Generators of Hazardous Waste](#)
[40 CFR §263, Standards Applicable to Transporters of Hazardous Waste](#)
[40 CFR §279, Used Oil Management Standards](#)
[40 CFR §300, National Oil and Hazardous Substances Pollution Contingency Plan](#)
[40 CFR §761, Polychlorinated Biphenyls \(PCB\) Manufacturing, Processing, Distribution in Commerce, And Use Prohibitions](#)
[49 CFR §100-199, Hazardous Materials Transportation, Handling, And Storage Regulations](#)
[California Code of Regulations, Title 22, Division 4, Environmental Health and 4.5, Environmental Health Standards for the Management of Hazardous Waste](#)
[California Code of Regulations, Title 23, Waters](#)
[California Health and Safety Code, Divisions 20, Miscellaneous Health and Safety Provisions, 26, Air Resources, 37, Regulation of Environmental Protection, 103, Disease Prevention and Health Promotion, 104, Environmental Health.](#)
[Chapter 173-303, WASHINGTON Administrative Code](#)
[Chapter 340, Oregon Administrative Rules](#)
[Title 18, Alaska Administrative Code](#)
[Title 11, Hawaii Administrative Code](#)

3 ADMINISTRATION

3.1 DEFINITIONS

3.1.1 Unless otherwise stated, the phrase *as shown*, *as indicated*, *as detailed*, or words of similar import refer to the contractual documents including drawings referenced in the specification.

3.1.2 The phrase *as directed*, *as required*, *as permitted*, *approved*, *acceptance*, or words of similar import refer to the direction, requirements, permission, approval, or acceptance by the Contracting Officer or a properly designated Contracting Officer's Representative (COR).

3.1.3 *Remove/Reinstall* – To remove the original item and then later install the same original item back in its place after performing specified work on it.

3.1.4 *Renew* or *renewal*–To remove the original item and to install a new item in new condition, identical or of like size, material and quality to that removed (i.e. "Renew-in-Kind").

3.1.5 *Replace* – To remove the original item and to install in its place a different item as described in the specification.

3.1.6 *Restore* – To bring back to the former, original or normal condition before alteration or removal.

3.1.7 *Underwater body* includes the external hull, all appendages, and sea chests from the keel up to and including the upper edge of the boot-top area.

3.1.8 The *Contracting Officer's Representative* (COR) is the person delegated by the Contracting Officer as the on-scene representative for matters concerning performance of work. This includes technical correctness, timeliness, and quality of the Contractor's work. Normally the Commanding Officer of the vessel is designated as the COR.

3.1.9 The *Coast Guard Inspector* is the COR or the individual designated by the COR to perform Coast Guard Inspector duties.

3.1.10 *Condition Found Report* (CFR) – See paragraph 3.8 below.

3.1.11 *Vessel* – Either a Coast Guard cutter (sixty-five feet or greater) or a Coast Guard boat (less than sixty-five feet.)

3.2 REFERENCES

3.2.1 All references shall be of the issue and/or revision indicated in the consolidated list of references. It is incumbent on the Contractor to maintain current MLCPAC Standard Specifications. In many instances, the references will be available for review locally aboard the vessel or at the cognizant Naval Engineering Support Unit (NESU). U. S. Government issued Standardization Documents can be found at:
http://stinet.dtic.mil/str/dodiss4_fields.html.

3.2.2 Detail and dimensioned drawings for precision equipment are generally accurate and will give sufficient information for estimating. However, allowance for changes in dimensions should be taken into consideration due to changes of equipment and to the structure and arrangement of the vessel. Actual installations shall conform to the specifications. When it is required that drawings or sketches be prepared, the Contractor shall meet the requirements of MLCPAC Standard Specification 085.1.

3.2.3 All referenced drawings and each piece or page of data that is marked with a Limited Rights Legend is a part of this specification and shall not be used for any purpose other than that contemplated by the specifications or item of work. The Contractor is prohibited from further use, release, or disclosure of this information.

3.2.4 Unless otherwise noted within this specification, hierarchy, priority, or order of precedence of requirements shall be as follows:

- Specification Definite Item or Optional Item
- Specification General Requirements
- Coast Guard Drawings
- Coast Guard Technical Manuals
- Commercial Drawings
- Commercial Technical Manuals
- Coast Guard Standards and Instructions
- Military and Navy Standards, Specifications, and Technical Manuals
- Commercial or Industrial Standards
- Commercial practices

3.2.5 Drawing discrepancies found in performance of work associated with this specification which may adversely affect work in this or future specifications shall be reported using "DRAWING DEFICIENCY ACTION FORM." This drawing feedback form, designed to be used by Contractor and Coast Guard personnel alike, may be downloaded from the Procurement section of the following Coast Guard web site:
http://www.uscg.mil/mlcpac/mlcp/Eng%20Support/mlcpv/files/procurement/Drawing_Deficiency_Action_Form_editable.pdf. The form shall be downloaded, duplicated and completed, as necessary, to inform MLCP(vs) technical personnel of drawing & configuration problems, as well as, suggested recommendations which may correct them.

3.3 ARRIVAL CONFERENCE

3.3.1 Within two days of the arrival of the vessel, and usually prior to the start of work, the Contracting Officer or the Contracting Officer's designated representative will meet with the Contractor at either the Contractor's conference facilities near the vessel or aboard the vessel (location to be at the sole discretion of the COR).

3.3.2 Normally this conference will be attended by the COR, designated Coast Guard Inspectors, representatives of the cognizant MLCPAC Naval Engineering Support Unit (NESU) and MLCPAC Support Branch (vr). For availabilities at Coast Guard facilities, the facility Hazardous Waste Coordinator will be invited to attend. A sample Arrival Conference Agenda can be found at

http://www.uscg.mil/mlcpac/mlcp/Eng%20Support/mlcpv/files/platform_support/Arrival_Agenda_Pkg_Form.doc

3.4 CONTRACTOR'S SUBMITTALS

3.4.1 The Contractor shall provide the following at the arrival conference:

- Subcontractor List
- Technical Representatives List
- Marine Chemist & "Competent Persons" List
- Welders' Qualification List
- List of Qualified Sil-Brazers
- Material Safety Data Sheets
- List of Key Personnel
- List of Emergency Phone Numbers
- Contractor's Inspection And Quality Control System
- Contractor's Property Administration System for GFE
- Certificate of Insurance
- Sample Copy of the Condition Found Report
- Contractor's Fire Emergency Response Plan
- Contractor's Oil Spill Response Plan
- Environmental Submittals (See Section 6)
- Contractor Security Requirements

3.5 VESSEL'S SUBMITTALS

3.5.1 The vessel will provide the following at the arrival conference:

- List of Key Personnel
- List of Emergency Phone Numbers
- List of designated Coast Guard Inspectors

3.6 WORKING HOURS

3.6.1 Except for items specifically authorized by COR, Contractor work shall normally be accomplished between the hours of 7:30 a.m. to 10 p.m. Monday through Friday, except Federal Holidays.

3.6.2 If the Contractor desires to accomplish work outside of normal working hours, request shall be made to the COR at least 24 hours in advance. Approval will be the sole discretion of the Contracting Officer or the COR.

3.7 PROGRESS MEETINGS

3.7.1 Weekly progress meetings will be held at either the Contractor's conference facilities near the vessel or aboard the vessel, at the sole discretion of the COR. The day of the week and time of day for the weekly progress meeting will be set by the COR at the arrival conference. Representatives for the COR and the Contractor will meet before each progress meeting to review the percentage of completion for each work item and change. Each progress meeting will result in the COR producing a Contract Status Report documenting the percentage completion and documenting areas needing attention by the Contractor in order to complete the contract on time. The COR will

transmit the Contract Status Report to the Contracting Officer, the NESU Representative, and MLCPAC(vr) the same day. Additional reports/charts shall be presented at each meeting as required by Definite Item "Production Control, Gantt Bar Chart Provide".

3.8 REPORTS/READINGS/AS FOUND CONDITIONS

3.8.1 All readings and inspections are to be taken within twenty-four hours after the machinery or system is opened. The Contractor shall notify the COR of the time and location of inspections requiring Coast Guard verification 24 hours prior to such inspections, **unless** such inspections need to be conducted more than 50 road miles from the primary place of contact performance, in which case 3 working days notice is required, in order to make travel arrangements for the Coast Guard inspectors. Measurements and readings shall be taken with calibrated measurement and test instrumentation. **All reports of readings, operational tests and inspections required by the specifications shall be submitted to the COR in writing, using a "Condition Found Report (CFR)", within twenty-four hours after the readings and/or inspections are made.** Promptness in taking and reporting readings is particularly important for underbody work items such as shaft bearing or rudder bearing clearances. Often during the progress of a work item, conditions are discovered by the Contractor which are considered abnormal for reasons of safety, expected reliability, health, or habitability. These conditions must be brought to the attention of the Coast Guard using a CFR. Details provided by the Contractor in a CFR are important because the CFR may result in a contract change. To speed the contract change process, the Contractor should include in the CFR the following details as a minimum:

3.8.1.1 A sequential number.

3.8.1.2 The contract item which the "CFR" relates to (i.e. D-XX).

3.8.1.3 A clear statement, definition, and description of the condition found, including but not limited to frame numbers, part numbers, materials, and dimensions as appropriate.

3.8.1.4 A proposed or recommended repair to correct the defective condition, including but not limited to frame numbers, part numbers, materials, and dimensions as appropriate.

3.8.1.5 Indicate whether the report requires Coast Guard action or if it is provided "for info" only. If action is required, indicate the time and date when the Coast Guard response is required in order to complete the action within the specified contract performance period. If the action cannot be completed within the specified contract period, so state.

3.8.1.6 A space on the form for the Coast Guard designated representative to make comments.

3.8.1.7 All CFRs shall be signed, dated and submitted by the Contractor's Ship Superintendent.

3.9 GOVERNMENT FURNISHED MATERIAL/EQUIPMENT

3.9.1 The Contractor shall furnish all equipment, staging, materials, fittings, tools, etc., necessary for proper completion of each item of work unless the specifications indicate the Coast Guard will provide GFM/GFE.

3.9.2 If GFM/GFE is to be furnished by the Coast Guard, it will be indicated in the specification for the specified work item. Unless otherwise noted in the specifications, GFM/GFE will be delivered by the Government to pierside/dockside of the vessel (at the place the vessel is located for the performance of work under this contract). Unless otherwise noted in the specifications, delivery date will be at the Coast Guard's discretion between the start of the contract and up to 5 working days after the start of the contract.

3.9.3 The Contractor shall perform sufficient receipt inspection of the GFM/GFE and then sign for custody of the GFM/GFE by a Coast Guard form DD1149 or comparable Contractor's form. The Contractor assumes the risk of, and shall be responsible for, any loss or destruction of, or damage to Government property upon its delivery to the

Contractor. However, the Contractor is not responsible for reasonable wear and tear to Government property properly consumed in performing this work.

3.9.4 It shall be the Contractor's responsibility to move or rig all GFM/GFE from the point of delivery to the point of storage (if necessary) and then to the point of use.

3.9.5 At the end of the contract, the Contractor shall turn over to the Coast Guard any and all GFM/GFE which was not installed under the terms of the contract.

3.10 SANITARY FACILITIES

3.10.1 Sanitary facilities for Contractor personnel shall be Contractor's responsibility; Contractor's sanitary facilities shall be separate & distinct from sanitary facilities used by vessel personnel. During any period that any or all of the vessel's head facilities are unavailable for use due to Contractor's performance under this contract, the Contractor shall provide clean, sanitary replacement facilities.

3.10.2 If at any time during the performance of the contract, Contractor work will place vessel sanitary facilities out of service, the Contractor shall provide temporary replacement facilities. The minimum replacement facility for up to 18 crew members displaced shall be hot and cold running water with a minimum of 2 showers, 2 sinks, 2 toilets, and 1 urinal located no further than two hundred feet from the vessel's gangway. Facility shall be equipped with electrical lighting and power outlets (110 VAC with ground fault circuit interrupters, GFCI's) for powering of electrical appliances (e.g., blow dryers). If more crew members are displaced, the replacement facilities shall be increased in direct proportion to this ratio. If the crew contains members of both sexes, suitable separate facilities shall be provided for men and women in proportion to their numbers in the crew. The Contractor shall maintain the facilities in a clean and sanitary condition at all times.

3.11 SMOKING AND TOBACCO PRODUCTS

3.11.1 Smoking and use of tobacco products aboard the Vessel or in Vessel office space is prohibited. Exceptions may be permitted if in strict compliance with Vessel rules and regulations (which may include designated smoking time/area).

3.12 CONTRACTOR SERVICES

3.12.1 The Contractor shall provide all services required by the Contractor for the completion of work. These services include but are not limited to electrical power, compressed air, steam, crane services, garbage and refuse, phones, office space, and portable toilet facilities. These services are for the Contractor's use only. Services required by the vessel are found in the "Temporary Services" item of the specification. Regarding crane services, several Coast Guard facilities have weight restrictions at some piers or berths. Notify the COTR seven days in advance of desired lift to coordinate lift, crane size, rigger locations, etc.

4 WORK CONTROL

4.1 TAG-OUT PROCEDURES

4.1.1 To prevent injury to personnel and/or damage to ship systems equipment tag-outs must be properly conducted. Ship's force will work closely with the Contractor to ensure tag-outs are done in a thorough and efficient manner as outlined below and in more detail in COMDTINST 9077.1, Equipment Tag-out Procedure.

4.1.2 Tag-Out Establishment

4.1.2.1 Prior to start of work on this Item, notify the Coast Guard Inspector in writing of equipment, systems, circuits, components, piping, and valves that require isolation so that tag-outs can be accomplished as required by COMDTINST 9077.1, Equipment Tag-out Procedure.

4.1.2.2 Ship's Force personnel will position equipment and install tags when tag-out of equipment, systems, circuits, components, piping, or valves as required.

4.1.2.3 The Ship's Authorizing Officer (normally the Engineer of the Watch) and the Repair Activity (Contractor's) Representative shall each verify that the tag-out is sufficient to prevent operation of equipment, systems, circuits, components, piping, or valves from all stations that could exercise control. Tags shall also be hung as required by COMDTINST 9077.1, Equipment Tag-out Procedure, paragraph 1.d to control the status of non-permanent jumpers, locking devices, seals, blank flanges, relief valve gags, or similar safety devices.

4.1.2.4 A Contractor's representative shall also verify that each tag is attached to the proper component and that it is in the condition required by the tag-out record sheet. This verification shall be made by witnessing the actions of the Ship's Force member posting or checking the tags and observing devices such as valve position indicators, operating handles, etc.

4.1.2.5 A Contractor's designated representative shall sign and identify his company on each ship's tag-out record sheet and tag prepared to support the Contractor's work.

4.1.3 Tag-Out Clearance

4.1.3.1 To facilitate prompt removal of tags, the Contractor shall notify the Coast Guard Inspector immediately when the Contractor's work is complete and the affected system, piping, or circuit is ready for activation.

4.1.3.2 Tags shall be cleared and removed in accordance with COMDTINST 9077.1, Equipment Tag-out Procedure, before the equipment is operationally tested or operated.

4.1.3.3 The Ship's Authorizing Officer and the Repair Activity (Contractor's) Representative shall each verify that the work necessary to clear a tag-out has been completed prior to authorizing removal of the tags. Both parties shall concur to clearing the tag-out by signing the ship's tag-out record sheet.

4.1.3.4 Ship's Force personnel will remove the tags so authorized for clearance.

4.2 SAFETY REQUIREMENTS

4.2.1 The Contractor shall comply with and ensure compliance to the following for operations which may affect Government personnel or property: 29 CFR Part 1915, "Occupational Safety and Health Standards for Shipyard Employment", 29 CFR Part 1910, "Occupational Safety and Health Standards", and 29 CFR Part 1926 "Safety and Health Requirements for Construction".

4.2.2 The following are deficiencies commonly encountered on safety inspections and are therefore emphasized here:

4.2.2.1 Anti-backflash control valves are required on all welding rigs (NFPA 51).

4.2.2.2 Scaffolds and/or lifelines are required when working above five feet. 29 CFR 1910 and 1915 cover this in detail. The following are commonly encountered problem areas:

4.2.2.2.1 Scaffolds require standard 42" high rails & midrails and 4" toeboards.

4.2.2.2.2 Planking must be scaffold-grade and completely cover the area between the railings and the ship.

4.2.2.3 Lifelines, body harnesses and lanyards are required wherever standard rails are not feasible. Lines must be kept taut, never allowing a fall of greater than six feet.

4.2.2.4 Lifelines must be attached above the worker.

4.2.3 Gear and equipment for rigging and lifting shall be in good working condition and operated according to the regulations set forth in 29 CFR 1915.111-116 and 29 CFR 1910.184. Proper safety precautions shall be practiced in the use of tag lines, mousing of hooks, and moving loads. In addition to the above requirements, all cranes used for work on the vessel or for handling GFM/GFE shall have a current weight handling certification in accordance with local, state and federal laws.

4.2.4 Tools and related equipment are addressed in 29 CFR 1915 Subpart H. Of particular concern is the use of ground fault circuit interrupters (GFCI) with power tools and the use of double insulated power tools. All shore supplied power circuits shall be protected by GFCI'S and have a grounding circuit back to shore. In addition, all power tools shall be approved by Underwriters' Laboratories, or by other testing laboratories approved by the Contracting Officer and either be double insulated or have a grounded circuit.

4.2.5 Personnel protective equipment must be maintained and used in accordance with 29 CFR 1915.151-160.

4.2.5.1 Where personnel exposures can not be maintained below the PEL using appropriate engineering controls, the Contractor shall provide all Contractor personnel with appropriate respiratory protective equipment or other protective equipment specified by the manufacture or where the Contractor/Contractor's industrial hygienist has determined that exposures could exceed the PEL. The Contractor shall also ensure personnel are properly protected from sensitizing agents/conditions reported by the manufacturer in the Material Safety Data Sheets. These operations include, but are not limited to spray painting and grinding. Selection of respiratory protective equipment should be based on sound industrial hygiene sampling data for the material being worked. Airline hose masks or Self Contained Breathing Apparatus (SCBA) shall be provided to all personnel conducting abrasive blasting or confined space operations, unless an industrial hygienist has determined that exposures can be maintained below the PEL. In addition, respiratory protection for all work which could be immediately dangerous to life and health must consist of either an SCBA or a airline hose mask with an escape bottle as a designed component of the mask assembly.

4.2.5.2 Air line respirators shall be fitted with a pressure regulating valve, a filter which will remove oil, water, and rust particles, and a carbon monoxide alarm. The air intake shall be from a source free from all contaminants, such as the exhaust from internal combustion engines, and air must meet Grade D.

4.2.5.3 Safety harnesses shall be equipped with lifelines which are secured with a minimum of slack when in use. Lifelines must not permit a drop of greater than six feet or contact with any lower level.

4.2.6 Confined space entry requires initial gas free certification by a Marine Chemist in accordance with 29 CFR 1915. The Contractor shall be responsible for monitoring and maintaining the "safe" condition during the entire time work is being performed. Monitoring shall be conducted by a NFPA certified Marine Chemist or a Competent Person. As a minimum, test/certification shall be made before each work shift or daily, whichever is more frequent, and duly recorded on all required certificates.

4.2.7 The Contractor shall provide to the vessel Material Safety Data Sheets for all hazardous materials used under this contract (including petroleum products), at least two working days prior to its use, if not previously submitted per paragraph 3.3. These include, but are not limited to, paints, solvents, cleaners, and abrasive blasting grits.

4.2.8 The Contractor shall ensure paints, solvents, etc., used in, on or around the vessel are used in a manner which prevents personnel exposure to concentrations of vapors exceeding Permissible Exposure Limits (PELs), or Threshold Limit Values (TLVs) for chemicals for which PELs are not listed in OSHA standards.

4.2.9 Each fuel and gas system supplied from shore shall be arranged to be secured by a valve located off the ship and marked to show its purpose. When not in use, fuel and gas hose valves shall be secured at the manifolds and the hoses pulled back to the open deck. Unused manifold valves shall be capped.

4.2.10 The Contractor shall control abrasive blast grit sufficiently to prevent exposure to personnel at or greater than Permissible Exposure Limits (as defined by OSHA). Ensure abrasive blast grit does not contain free silica.

4.2.11 Diving operations must be accomplished in accordance with the requirements of 29 CFR 1910.401 to 440 including appendices. No person may fill more than one assignment if it an emergency response or other incident may require complete dedication to one of the tasks.

4.3 QUALITY CONTROL

4.3.1 The Contractor shall implement the quality control (QC) program submitted in paragraph 3.4.9. Quality assurance is the sole responsibility of the Contractor. The COR may delegate inspection responsibilities to members of the vessel's crew. The designated inspectors monitor the progress of work done by the Contractor. If, during the performance of work the Coast Guard Inspectors witness work that fails to meet the specifications, work that is otherwise unsatisfactory, or conditions which may lead to an unsatisfactory end product, the inspectors will alert the COR who will advise the Contractor informally of the deficiency. If the deficient work is not corrected within a reasonable period of time (as approved by the COR), the COR will officially alert the Contractor via a Contract Deficiency Report. The COR will initiate the report (a sample report may be found at http://www.uscg.mil/mlcpac/mlcp/Eng%20Support/mlcpv/files/platform_support/Arrival_Agenda_Pkg_Form.doc) and submit it to the Contracting Officer with copies to the cognizant NESU and MLCPAC(vr). The Contracting Officer will forward the original to the Contractor.

4.4 INTERFERENCES

4.4.1 The prices offered shall include the cost of performing all the necessary removal, relocation, and/or reinstallation of ship's structure, materials, and equipment in connection with the work. The fact that an interference is not shown on a plan or specifically identified in the specification item is not justification for a contract change. A physical check of each job aboard the vessel prior to bidding is strongly encouraged.

4.4.2 Removal and Reinstallation of Interferences. The Contractor shall remove and reinstall all interferences and obstructions necessary to complete the required work without regard to whether interferences are indicated under specification work items. This may include the removal of machinery, piping, ducts, wiring, insulation, structure and anything else which interferes with the proper accomplishment of a work item. Prior to being disturbed or removed and in the presence of the Coast Guard Inspector, the Contractor shall operationally test each interference reporting by Condition Found Report any existing operational defects or deficiencies. While awaiting reinstallation and restoration, the Contractor shall maintain and protect interferences. When determined to be in the best interest of the Coast Guard & the Contractor and upon Coast Guard approval, interferences may be modified or altered and returned to essentially the same configuration and condition. They are then to be retested in the presence of the Coast Guard Inspector to verify proper operation. Otherwise, upon completion of required work, the Contractor shall restore interferences to their original configuration and condition, and in the presence of the Coast Guard Inspector retest for proper operation.

4.5 EXTERIOR/COMPARTMENT PRESERVATION/PROTECTION

4.5.1 To prevent damage arising from the performance of the contracted work, it shall be the responsibility of the Contractor to provide adequate protection to the vessel or any government property in areas where the work under items of these specifications is to be accomplished. Any damage resulting from the Contractor's failure to adequately protect the vessel or government property shall be repaired by the Contractor at no charge to the government.

4.5.2 Compartment Cleaning and Finishing – When the Contractor enters a compartment for the accomplishment of work, the Contractor is to notify the Coast Guard Inspector and jointly inspect the compartment prior to starting the

work. All areas in way of the Contractor's work, whether or not directly repaired or altered, are to be restored to as clean and ship shape condition on completion of the work as when work was started. For example, the decks leading to work areas are to be cleaned and, if required due to unusual wear by the Contractor's crew, the work sections are to be either refinished or renewed so that they match the original condition of the decks.

4.5.3 Protective Coverings – All machinery, equipment, deck covering, insulation, and open vent terminals exposed to dust or drifting particles resulting from work under this contract shall be adequately protected. Methods of protection include, but are not limited to fire-retardant blanket (if required due to sparks or slag), canvas, or plastic coverings. All open vent intakes shall be completely covered with air intake screens fitted with 20 pores per inch polyester or polyurethane foam filtering material and shall be maintained by the Contractor to prevent excessive air restriction and/or damage to ventilation motors. Any damage resulting from failure by the Contractor to provide adequate coverings shall be repaired at the Contractor's expense. It shall be the responsibility of the Contractor to provide adequate protection to all deck covering in areas where the work under items of these specifications is being accomplished and on all main access routes to these areas. Acceptable protective covering will be either heavy cardboard, masonite (fiberboard), or plywood installed in sufficient quantities to adequately protect existing deck covering. Any protective coverings which are damaged during the course of work shall be immediately repaired or renewed by the Contractor.

4.5.4 Glass – All glass (port lights, windows, etc.) adjacent to areas interior and exterior where abrasive blasting, burning, or welding is required or accomplished shall be covered to prevent scarring and damage.

4.5.5 Ragged Edges – Care is to be taken to smooth off all ragged edges or burned off edges by grinding or filing to leave a smooth surface. Removal of fixtures, equipment, plating, piping, and fittings shall be made clean to the root and finished off. Where pipes, cables, and fittings are removed, the hole shall be blanked off flush with welded plates of like material and thickness.

4.5.6 Bracket and Supports – All pipes, cables, duct work, installed furniture, and equipment shall be bracketed, supported, and/or secured so as to carry the weight, prevent excessive vibration, and withstand inertia forces resulting from rolling and pitching.

4.5.7 Dirt/Debris/Trash – At the end of the work day, the Contractor shall remove all dirt, debris, trash, grinding dust and excess material from the vessel in areas and access to areas where work is being accomplished. The standard for this daily clean up is that the decks will be broom/vacuum clean, no liquids will be left standing on decks, and items which will not be further used for the work will be removed from the vessel. The goals behind this requirement are to remove fire hazards, to improve access within the vessel for routine and emergency movement of personnel, and to preserve the material condition of the vessel.

4.5.8 Painting

4.5.8.1 All burned or scarred areas, new structure, or plating resulting from any work performed by the Contractor shall be cleaned and repainted in accordance with this specification, the Coatings and Color Manual (Commandant Instruction M10360.3), or vessel paint schedule in that order of priority. The Coast Guard Inspector will inspect surface preparation prior to painting to assure conformance with specifications and COMDTINST M10360.3. Prime bare metal to prevent rusting. Re-preparation due to rust bloom shall be the responsibility of the Contractor at no charge to the Government.

NOTE: Local VOC restrictions may reduce number of paint system options permitted by the Coatings and Color Manual (Commandant Instruction M10360.3). Ensure VOC limits of painting systems used comply with local (where work is performed) requirements.

4.5.8.2 All steel and aluminum installed under this contract shall, prior to installation, be free of mill scale and corrosion. Except where otherwise specified, all steel shall be properly primed with one liberal coat of high build epoxy primer in accordance with the Coast Guard Coatings and Color Manual (COMDTINST M10360.3).

NOTE: Apply all coatings in strict compliance with manufacturer's application instructions.

4.5.8.3 Where new paint is to be merged into the existing paint system, feather into the surrounding paint. Apply paint to surfaces only if they are dry and free of sand, dust, grease, or any foreign material. Apply paint only if surface is five or more degrees F. above the dew point.

4.5.8.4 Paint must have an age less than the manufacturer's recommended shelf life. The Contractor shall supply certified laboratory reports showing product, batch number, and date of manufacture for each batch of paint to the designated Coast Guard Inspector.

4.5.8.5 Store paint for at least 48 hours prior to painting so it is maintained between 65 and 85 degrees F. Issue paint from storage so that it is applied before the paint temperature drops below 50 degrees F. Do not apply paint if the paint temperature is below 50 degrees. When ambient temperature drops below 50 degrees F. or wet weather is encountered, the Contractor shall ascertain whether the paint manufacturer recommends any substitutions of paint, alteration of paint formulas, or modified application instructions. Any substitution of paint is subject to approval of COR. Adhere to all of the manufacturer's recommendations.

4.5.8.6 All paints shall meet the environmental standards for the locale at which they are applied. This includes, but may not be limited to, meeting volatile organic compound (VOC) limits for coating systems.

4.5.8.7 Quality assurance inspections are required for all painting done in accordance with individual work items, and are to be recorded the Paint Log. The Paint Log will be filled out by the Contractor, verified by the Coast Guard Inspector and retained by the vessel for hull history. The forms may be downloaded from the Procurement section of the following Coast Guard web site:

<http://www.uscg.mil/mlcpac/mlcp/Eng%20Support/mlcpv/index.htm>.

4.5.9 Fluid Containers & Piping. The Contractor is responsible for containment, clean up, and disposal of any fluid spilled during course of their efforts (e.g., includes spills resulting from mishandling, disassembly & piping removal).

4.6 HOTWORK/WELDING

4.6.1 The Contractor and Coast Guard Inspectors shall comply with the hot work, atmospheric testing, ventilation, and safety precaution requirements contained in 29 CFR Part 1915, "Occupational Safety and Health Standards for Shipyard Employment", and Naval Ships' Technical Manual, Chapter 074, Volume 3, Gas Free Engineering.

4.6.1.1 The Contractor shall certify that a safe atmosphere exists in and about a compartment before starting any work which may produce the heat of ignition, sparks, or flames. The Contractor shall pump down, wipe up, ventilate, or take any other action required to make the compartment safe for personnel and the work to be performed. To facilitate hot work and upon Contractor request, Coast Guard will pump down bilges, tanks, and voids to their lowest level with installed pumping systems, and shift and/or off-load fuel. The Contractor shall be responsible for any further fluid removal below installed pump's low suction. Unless otherwise provided in the specifications, further fluid removal for any other non hot work purpose (e.g., weight distribution for drydocking) shall be the Contractor's responsibility.

4.6.1.2 Initial gas free certification shall be conducted by a NFPA certified Marine Chemist, except in such cases where a Competent Person is authorized to conduct certification in accordance with 29 CFR 1915. All tests shall be conducted with equipment meeting National Fire Protection Association standards. One current copy of the Gas Free Certificate shall be given to the vessel's Engineer, a copy shall be posted on the ship's quarterdeck, and a copy shall be posted adjacent to all accesses of the space, void, tank, or area where work is being performed.

4.6.1.3 The Contractor shall be responsible for monitoring and maintaining the "safe" condition during the entire time work is being performed. Monitoring shall be conducted by a NFPA certified Marine Chemist or a Competent Person. As a minimum, test/certification shall be made before each work shift or daily, whichever is more frequent, and duly recorded on all required certificates.

4.6.2 NO HOTWORK SHALL BE STARTED WITHOUT THE PERMISSION OF THE VESSEL'S OFFICER OF THE DECK (OOD). Permission to proceed with hot work shall be requested at least 24 hours in advance of planned hot work. The vessel's Quarterdeck Watch usually maintains a hot work log to ensure the OOD knows of ongoing work that can affect the safety of the vessel, where the hot work is taking place, whether a gas-free certificate is required, and whether a firewatch has been assigned. Unless otherwise indicated in the specifications, the Coast Guard will provide all firewatch personnel.

4.6.3 Unless otherwise specified, all welding and hot work shall be in accordance with MLCPAC Standard Specification 074, Welding and Allied Processes. This specification includes requirements for welders, fire watches, equipment, procedures, and safety precautions.

4.6.4 The Contractor shall submit a list of qualified welders, including welder's name, type of qualification, and date of last qualification test, to the COR at the Arrival Conference. All welders will check in at the vessel's Quarterdeck with the Officer of the Deck and have a Coast Guard firewatch assigned prior to commencing any "Hot Work". Prior to arc welding, the Contractor shall ground the hull of waterborne vessels fore and aft in accordance with Naval Ships' Technical Manual, Chapter 074, Volume 1, Welding and Allied Processes.

4.7 MAINTENANCE OF WATERTIGHT INTEGRITY

4.7.1 Upon completion of any work on a water or oil tight boundary (including hull), perform an "air hose test" (also known as liquid film bubble emission leak test) along entire length of affected boundary. This test shall be in addition to any NDT which may be specified. Apply a solution consisting of equal parts of liquid soap or detergent and glycerin, and 4.5 parts water, to one side of affected boundary, while applying air pressure or a jet of dry air to opposite side of affected boundary. For tanks and voids, pressurize compartment to 2 psi. For watertight compartments which are not tanks or voids, direct a jet of dry air on affected boundary. In all cases the nozzle shall be as close as possible to item under test and the stream directed against all compartment boundaries, plate connections, closures, fittings and boundary penetrations in the manner most likely to reveal leaks. The nozzle diameter shall be 3/8 inch minimum and the pressure at the nozzle shall be 90 psi minimum. Closely inspect low pressure (solution) side of affected boundary in presence of the Coast Guard Inspector. Defects/discrepancies will appear as small bubbles in soap solution. Correct defects/discrepancies and retest. Repeat until a satisfactory bubble emission test is obtained.

4.8 SCRAP/SALVAGE

4.8.1 The COR shall determine which existing materials removed or disconnected are of scrap/salvage value to the Government. Though not indicated or specified for reuse in the new work, those materials shall remain the property of the Coast Guard. The material shall be placed on the deck of the vessel or Government truck, or packed/palletized and shipped by the Contractor (funded by the Coast Guard) as directed by the COR. Material not identified by the COR for retention shall be designated as scrap. The Contractor shall store scrap at no additional cost to the Government and dispose of the scrap upon completion of the contract. The Contractor shall submit a proposal, supported by an invoice from a scrap dealer, to credit the Government for the value of the scrap.

4.9 LABEL PLATES/TAGS

4.9.1 The Contractor shall provide label plates for all new and/or redesignated access fittings, compartments, electrical and electronic equipment and fittings, ventilation blowers and systems, valves, and any other equipment and/or fittings requiring them as indicated on installation drawings. The Contractor shall also provide label plates where they would normally be required as indicated on similar listings in the ship's label plate list. In the absence of guidance regarding the inscriptions, the plates shall be engraved with the inscriptions provided by the COR.

4.10 ABRASIVE BLAST & PAINT OVERSPRAY

4.10.1 The Contractor shall ensure that all abrasive blast material, paint particle/waste, and paint overspray is managed in accordance with all applicable federal, state and local environmental/personal exposure requirements and is contained in the work area, and not allowed to enter the atmosphere or water. This prevention may include, as necessary, the use of vacuum-blasting techniques, the construction of temporary shelters, and covering all openings, open areas, and other possible exits, including, but not limited to, scuppers, railings, freeing ports, ladders, and doorways. The Contractor shall install protective covering on all vessel carpeting and tile when major grit blasting (as determined by the COR) is to be performed during the contract.

4.10.2 Blast material used shall meet the environmental profile specified in Paragraph 3.4.12 (Hazardous Waste Minimization) of Mil-A-22262(SH).

4.11 DISASSEMBLY & INSPECTION ACTIONS

4.11.1 Any additional work resulting from required disassembly and inspection actions is typically disruptive and may cause availability schedule delays. To minimize adverse impact of such work, all required disassembly and inspection actions shall be accomplished before 25% of availability contract period has elapsed. Production schedule submitted to Coast Guard shall clearly show & schedule all disassembly & inspection actions.

5 ACCESS TO VESSEL

5.1 FUEL OIL OFFLOAD/ONLOAD

5.1.1 The Coast Guard reserves the right to call in an outside contractor to offload/onload fuel oil to the vessel while at the Contractor's facility. The Coast Guard will coordinate the fuel oil transfer evolution with the Contractor to ensure that fuel oil can be offloaded/unloaded prior to conducting any tests or operations that require the vessel to be at a full load condition.

5.2 WORK BY SHIP'S FORCE

5.2.1 The Coast Guard reserves the right for the vessel crew to perform routine maintenance or ship's work and to check all clearances and readings taken on equipment by the Contractor throughout the contract period. The vessel's crew work will not interfere with the Contractor in the execution of the contract. The vessel will refer to the Contractor's Production Control submittals in planning such work to prevent interferences.

5.3 SECURITY/CONTROLLED ACCESS

5.3.1 The Commanding Officer will prevent access to certain "Controlled Access" compartments by individuals with no operational requirement for access and no security clearance. The Contractor shall notify the Commanding Officer of the vessel, in writing, of the names of the Contractor personnel who will be performing work in controlled access compartments. The Contractor shall ensure its employees do not enter controlled access compartments without prior authorization. The procedures for access will be specified by the vessel. Generally, the vessel will prepare the compartment so that Contractor personnel can enter and work.

5.4 TECHNICAL REPRESENTATIVES

5.4.1 Refer to the "Access To Vessels" clause contained in Section H of this contract.

6 ENVIRONMENTAL

6.1 DEFINITIONS

6.1.1 Solid Waste: Rubbish, debris, sanitary waste, and other discarded solid materials resulting from industrial, commercial, and agricultural operations, and from community activities.

6.1.2 Rubbish: A variety of combustible and noncombustible wastes such as paper, boxes, glass, crockery, metal, lumber, cans, and bones.

6.1.3 Debris: Includes combustible and noncombustible wastes, such as ashes, waste materials that result from construction or maintenance and repair work, leaves, and tree trimmings.

6.1.4 Chemical Wastes: Includes salts, acids, alkalis, herbicides, pesticides, and organic chemicals.

6.1.5 Sanitary Wastes:

6.1.5.1 Sewage: Wastes characterized as domestic sanitary sewage.

6.1.5.2 Garbage: Refuse and scraps resulting from preparation, cooking, dispensing, and consumption of food.

6.1.6 Asbestos and Asbestos Materials: Asbestos means actinolite, amosite, antophyllite, chrysotile, crocidolite, and tremolite. Asbestos material means asbestos or any material containing asbestos such as asbestos waste, scrap, debris bags, containers, equipment, and asbestos-contaminated clothing consigned for disposal. Friable asbestos material means any material that contains more than one percent asbestos by weight and that can be crumbled, pulverized, or reduced to powder, when dry, by hand pressure.

6.1.7 Oily Waste: Includes petroleum products and bituminous materials.

6.1.8 PCB (Polychlorinated Biphenyls): Toxic and non-biodegradable materials used extensively under trade names, such as Pyranol or Askarel, as insulating cooling fluids in capacitors and transformers.

6.1.9 Hazardous Material (HM): Chemicals defined by OSHA 29 CFR 1915.1200 or under the U.S. Department of Transportation (DOT) regulations (Title 49 CFR Parts 100 through 199) which are determined by the Secretary of Transportation to present risks to safety, health, and property during transportation. The DOT regulations include requirements for shipping papers, package marking, labeling, transport vehicle placarding, and training of personnel handling hazardous materials.

6.1.10 Hazardous Substance: Substances defined under the Clean Water Act and CERCLA as chemicals which are harmful to aquatic life or the environment and are regulated, if spilled or otherwise released to the environment. The EPA has designated "reportable quantities" for each hazardous substance under CERCLA. If an amount equal to or greater than the reportable quantity of a hazardous substance is released to the environment, that spill must be reported.

6.1.11 Hazardous Waste (HW): Substances which are hazardous and have been discarded are regulated as hazardous waste under RCRA or State Health and Safety Codes and their implementing regulations. A waste is hazardous if it meets certain levels of reactivity, ignitability, corrosivity, or toxicity, or is otherwise listed as a hazardous waste in Title 40 CFR Part 261 or in the respective State Health and Safety Code or Code of Regulations.

NOTE: In addition to the usual Title 40 CFR Part 261 Hazardous Wastes, California manages Waste Oil and Zinc in certain concentrations as Hazardous Waste. Debris from zinc paint removal may be regulated. See the California Code of Regulations, Title 22, section 66261.24

6.1.12 Paint Containing Lead: Paint or other similar surface coating material containing detectable levels of lead or lead compounds. The definition for Paint Containing Lead is the same as that for lead-based paint. Definitions for lead-based paint found in other documents, do not apply to work under this contract.

6.1.13 Post-consumer Material: A material or finished product that has served its intended use and has been diverted or recovered from waste destined for disposal, having completed its life as a consumer item. Post-consumer material is a part of the broader category of “recovered material.”

6.1.14 Recovered Material: Waste materials and byproducts which have been recovered or diverted from solid waste including post-consumer material, but such term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.

6.2 APPLICABLE REGULATIONS

6.2.1 The statutes and regulations listed in the References section of these General Requirements form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

6.3 TEST RESULTS

6.3.1 Submit all test results taken as required by Section 6 of the General Requirements to the Contracting Officer or COR.

6.4 PERMITS & CERTIFICATES

6.4.1 Submit copies of all permits and certificates required for performance of this contract at the arrival conference.

6.5 HAZARDOUS MATERIAL IDENTIFICATION

6.5.1 Submit Material Safety Data Sheets (MSDS) for any materials defined as hazardous under the most current revision of 29 CFR 1910.1200. One copy of each MSDS shall be submitted to the Contracting Officer’s Representative no later than the delivery date of the product. Two copies shall be submitted to the Contracting Officer.

6.6 KNOWN HAZARDS

6.6.1 (See note in paragraphs 6.9.1.6 and 6.9.1.7 for required contract proposal hazard assumptions.):

6.6.2 <<<[PCBs if applicable]
[if applicable] The Coast Guard has reason to believe that PCB’s may be found, although not exclusively, in the following locations :>>>

6.6.3 <<<[Asbestos if applicable]
[if applicable] The Coast Guard has reason to believe that asbestos may be found, although not exclusively, in the following locations :>>>

6.6.4 <<<[Lead if applicable]
[if applicable] The Coast Guard has reason to believe that lead paint may be found, although not exclusively, in the following locations :>>>

6.7 SUBMITTALS

6.7.1 Environmental Management Plan: The Contractor shall have a written compliance program (the plan) outlining how the Contractor handles hazardous materials, petroleum products, hazardous substances, and hazardous waste. The plan shall comply with all local, state, and federal laws and regulations when handling hazardous materials and hazardous or other wastes. For work involving the hazards of lead, the compliance program shall be in accordance with 29 CFR 1915.1025. The program shall include, but is not limited to, the following elements as appropriate: a general storage site plan, methods used to analyze whether generated material

(blasting debris, paint waste, etc.) is hazardous, any hazardous waste licenses and permits, air district permits, spill response plans (see paras. 27.14 and 27.15), any permits required by the National Pollutant Discharge Elimination System, 33 U.S.C. 1342, air district permits, noise control plan, identification of hazardous waste and material. The Coast Guard has the right to require removal from the contract any subcontractor whose performance fails to comply with these and any other environmental laws and regulations or who fails to provide appropriate evidence of compliance with them. NOTE: a general format outline of an acceptable Environmental Management Plan can be found on our internet site:

http://www.uscg.mil/mlcpac/mlcp/Eng%20Support/mlcpv/files/procurement/ENVIRONMENTAL_MANAGEMENT_PLAN.doc.

6.7.2 Asbestos Documentation <if required>

6.7.3 Job Specific Statements of Procedures <if required>

6.8 STRICT COMPLIANCE WITH REGULATIONS AND STATUTES

6.8.1 Provide and maintain environmental protection during the life of the Contract to control pollution or to correct conditions that develop during performance of the contract. Comply with all Federal, State, and local laws and regulations pertaining to water, air, and noise pollution.

6.9 CONTROL & DISPOSAL OF WASTES

6.9.1 With the exception of materials specifically indicated or specified to be salvaged for reuse, and turned over to the Government, all non-hazardous wastes and demolished materials become the Contractor's property and shall be removed from the job site daily. Shipboard, store hazardous waste in corrosion resistant containers labeled to identify type of waste and date filled.

6.9.1.1 Hazardous Waste Disposal (for work performed at a Coast Guard facility): Any hazardous waste generated by work under this contract is the responsibility of the Contractor and shall be labeled and packaged in 49 CFR approved containers and in accordance with all other applicable Federal, state, and local laws and regulations. Along with the Government, the Contractor is contractually considered the co-generator of any hazardous waste. The Government shall make available its facility's EPA generator ID number for manifesting of hazardous waste. The Contractor shall identify, arrange and be responsible for the turnover of any hazardous waste, within the confines of the Coast Guard shore facility, to the facility's hazardous waste coordinator. The ship's hazardous waste coordinator shall be notified prior to any transfers of hazardous waste from ship to shore. The Contractor shall comply with applicable parts of 40 CFR 262. A manifest of hazardous waste shall be prepared by the Contractor and signed by the Government Hazardous Materials/Hazardous Waste Coordinator at the facility (hereinafter "HM/HW Coordinator"). The Contractor shall contact the HM/HW Coordinator for turnover of any hazardous waste. No Contractor or Subcontractor shall have the authority to sign a hazardous waste manifest using the facility's EPA generator ID number or remove contract generated hazardous waste from the Coast Guard facility without COR or Contracting Officer approval.

NOTE: Coast Guard facilities do not have Facilities Response Plans (see 33 CFR 154 Subpart F). It is the Contractor's responsibility to furnish the Facility Response Plan (FRP) when required for over the water liquids transfers to and from vessels. This requirement is applicable to transfers to/from vessels with an oil/fuel capacity of 250 barrels or more.

6.9.1.2 HM/HW Spill Response: Spill response shall follow the requirements of 29 CFR 1910. The Contractor shall be responsible for all Contract/Availability related spills. This contractual authority to assume cleanup direction is in addition to, and does not affect, the Coast Guard's regulatory authority to initiate federal spill control and cleanup operations under the National Oil and Hazardous Substances Contingency Plan, 40 CFR 300. Any Contractor provided spill response deemed inadequate by the Coast Guard will then come under the direction of the Coast Guard and the Coast Guard will be reimbursed by the Contractor for their expenses. Contractor's responsibility includes removal of spill response waste from the work site upon completion of the cleanup. The transfer of hazardous waste shall be handled as noted in 6.9.1.1. For oil and hazardous material spills which are

reportable under Federal, State, and local laws and regulations, the Contractor shall immediately notify the vessel's Hazardous Waste Coordinator and Contracting Officer along with the required agencies.

6.9.1.3 Manage and dispose of petroleum products and petroleum contaminated water in accordance with procedures meeting Federal, State, and local laws and regulations. Comply with 40 CFR 761 for removal and disposal of PCB containing articles.

6.9.1.4 Refrigerants: The Contractor shall at all times adhere to the requirements of the Clean Air Act, 42 U.S.C. 7401 et seq., and any implementing regulations. The Contractor may not knowingly vent or otherwise knowingly release or dispose of any Class I or Class II refrigerants, as defined in 42 U.S.C. 7671a, into the environment. The Contractor shall ensure that when servicing small appliances (refrigerators, freezers, water coolers etc.), high pressure systems, or low pressure systems, all servicing and recovery requirements for the appropriate level of equipment are met. Whenever reclaimed refrigerant is used, the Contractor shall provide the Coast Guard Inspector proof that the refrigerant meets the relevant standard of purity. All Contractor servicing technicians must have obtained the required level of Environmental Protection Agency certification necessary to service the equipment (i.e. small appliances, high pressure systems, low pressure systems, etc.) in question.

6.9.1.5 Lead and Chromium: The Contractor shall assume all paint removal operations involve lead-based paint. An adequate survey of the work-area has not been accomplished by the Coast Guard to determine the extent of lead-based paint. The Contractor will be responsible for determining the percentage of operations which involve lead-based paint. Prior to accomplishing any work involving the removal of lead-based paint, the Contractor shall contact the COR or the Contracting Officer and provide copies of the sample results.

6.9.1.5.1 Paint Containing Lead: The Contractor shall comply with all applicable Federal, State, and local laws and regulations regarding paint containing lead, when engaging in lead-based paint activities, or when addressing lead-based paint hazards and disposal. Whenever this contract provides more than one standard for regulating lead-based paint, the Contractor shall comply with the most restrictive law or regulation. Applicable laws or regulations include, but are not limited to: 16 CFR 1303, Ban of Lead-Containing Paint; 29 CFR 1910, Occupational Safety and Health Standards for General Industry; 29 CFR 1915.1025, Lead for Shipyard Employment; 29 CFR 1926.62, Occupational Safety and Health Standards for Construction Industry; 15 U.S.C. 2601, Toxic Substances Control Act, et seq. and the Residential Lead-Based Paint Exposure Reduction Act.

CAUTION: The inorganic zinc primer specified in COMDTINST M10360.3, Coatings and Color Manual may contain concentrations of lead, but not in excess of 0.06% by weight. COMDTINST M10360.3 specifies inorganic zinc for interior steel surfaces including machinery decks, voids, chain lockers, inaccessible areas, and fire zone bulkheads; exterior steel surfaces including weather decks, work areas, deckplates, superstructures, stack casings, freeboards, and inaccessible areas; and steel items subject to condensation. Additionally, zinc in certain concentrations is a hazardous waste in California. Debris from zinc paint removal may be regulated. See the California Code of Regulations, Title 22, section 66261.24.

6.9.1.5.2 Lead-Contaminated and Chromium-Contaminated Material Abatement: The Contractor shall not release lead, lead-contaminated or chromium-contaminated materials into the environment. Periodic air monitoring (as appropriate) for lead and/or chromium in the worker's breathing zone shall be performed during the course of any abatement work involving lead/chromium-containing materials. Submit results to the COR or Contracting Officer for review. The Contractor shall dispose of materials containing lead or chromium and likewise contaminated materials in accordance with any applicable hazardous waste laws and this contract. When handling and storing lead or chromium contaminated materials, the Contractor shall be responsible for compliance with 42 U.S.C. 9601-9675, 42 U.S.C. 6901-6991, and all other applicable Federal, state, and local environmental laws and regulations.

NOTE: The Contractor shall propose a price for this effort as if lead abatement procedures will be required for all paint removal requirements. No equitable adjustment will be granted to any contractor for the removal of any paint containing lead or chromium.

6.9.1.6 Asbestos: The Contractor shall assume all removal work involves asbestos. Prior to commencing work, the Contractor shall obtain all required samples to determine the levels of asbestos present (if any) and the personnel

protection required. Copies of the sample results shall be provided to the COR prior to commencing work. In no case, will any asbestos be cut or otherwise treated without compliance with the Coast Guard Asbestos Exposure Control Manual (COMDTINST M6260.16). In addition to COMDTINST M6260.16, any asbestos abatement operations must comply with all federal, state and local laws and regulations including 40 CFR 61.150 and 29 CFR 1915.1001; National Emission Standards for Asbestos. Provide all notices to the EPA as required by 40 CFR 61.145 and other applicable state and local agencies prior to commencing asbestos removal work. Whenever this contract provides more than one standard for asbestos abatement, the Contractor must comply with the most restrictive law or regulation. Note that COMDTINST M6260.21 requires full compliance with OSHA Standards in 29 CFR 1910.1200. The Contractor shall provide forty-eight hours written notice to the Contracting Officer before commencing any asbestos work. Should there be any question as to the existence of asbestos in any material which may be disturbed, the Contractor is responsible for conducting hazard evaluations pursuant to OSHA requirements. The Contractor shall provide the COR with a description, location, and analysis results for all materials samples taken during personnel hazard evaluations before work commences in the affected area. Additionally, asbestos is a hazardous waste in California under certain circumstances, potentially triggering the provisions of sections 6.9.1.1 and/or 6.9.1.2 of this specification. See the California Code of Regulations, Title 22 , section 66261.24

NOTE: The Contractor shall propose a price for this effort as if asbestos abatement procedures will be required for all removal work. No equitable adjustment will be granted to any contractor for the removal of any asbestos.

6.9.1.7 VOLATILE ORGANIC COMPOUNDS (VOC)–REGULATIONS GOVERNING VOC EMISSIONS AND SOLVENT CONTENT IN PAINTS, COATINGS, SOLVENTS, ADHESIVES AND CLEANERS: The Contractor is required to comply with local VOC laws and regulations and shall have an acceptable VOC compliance plan. The plan shall demonstrate that the use of paints, solvents, adhesives and cleaners comply with local VOC laws and regulations. All required permits shall be obtained, prior to starting work involving VOC's, in the air quality district in which the work will be performed. The compliance plan shall be submitted by the Contractor to the COR prior to the start of work. An acceptable compliance plan shall contain, as a minimum: a listing of each material subject to restrictions in the air quality management district in question, the rule governing its use, a description of the actions which the Contractor will use to comply with the laws and regulations, and any changes in the status of compliance during the life of the contract. Alternatively, if no materials are subject to the restrictions in the air quality management district where the work will be performed, or if there are no restrictions, the compliance plan shall so state.

6.9.1.8 PCB (Polychlorinated Biphenyl) Containing Materials: PCBs (which are known to be hazardous to human health) may be present in various locations on board Coast Guard Vessels. These locations include those which contain non-armored electrical cable manufactured prior to 1982 (typically grey PVC jacketed cable), and in "Chromelock Tape" which may be used with some soft patches, sheathing, pipe hangers and lap-riveted joints. If the presence of PCBs is known or suspected in any area of work, comply with the Toxic Substances Control Act (TSCA), 15 U.S.C. 2601-2692; 40 CFR 761 et seq.; COMDTINST M 16478.1, Hazardous Waste Management Manual; COMDTINST M16478.2, Procurement, Handling, and Disposal of Polychlorinated Biphenyls; and all other applicable federal, state, and local laws and regulations related to handling and disposition.

6.10 DUST CONTROL

6.10.1 Keep dust down at all times, including non-working hours, weekends, and holidays. No dry power brooming is permitted. Instead, use vacuuming, wet mopping, wet sweeping, or wet power brooming. Air blowing is permitted only for cleaning non-particulate debris, such as steel reinforcing bars. No abrasive blasting is permitted unless dust is confined. No unnecessary shaking of bags is permitted where bagged material is used.

6.11 NOISE

6.11.1 Make the maximum use of “low-noise-emission products” as certified by EPA and described at 40 CFR Part 204. Comply with applicable portions of the Noise Control Act (NCA). The Contractor is responsible for complying with all other Federal, state, and local noise control laws and regulations.

6.12 OIL SPILL PLANNING

6.12.1 (Applicable to fixed or mobile facilities transferring oil, including fuel and oily wastes, to or from a vessel with a capacity 10,500 gallons or more.) Transfers of any amount of “oil”, as defined by 33 CFR 154.105, between the vessel and the Contractor’s facility, or a mobile tank facility (subcontracted or otherwise arranged by the Contractor) are subject to the oil spill response plan requirements of 33 CFR 154.1010 et seq. NOTE: Coast Guard facilities do not have Facility Response Plans (FRP) (see 33 CFR 154 Subpart F). It is the Contractor’s responsibility to furnish the FRP when required for bulk transfers of oil (as defined in the citation above) to or from vessels. The Contractor shall have an approved and current Facility Response Plan for any fixed or mobile facility transferring oil to or from the vessel whether the transfer is done by the Contractor or Subcontractor. A current USCG MSO COTP-approved Facility Response Plan per 33 CFR Section 154.1017 will be considered acceptable in meeting this requirement. Similarly the Contractor shall have any other applicable Facility Response Plans, required by federal, state, or local requirements. The required plans shall be made available for review by the COR at the arrival conference (See para 3.3).

6.13 USE OF RECOVERED MATERIALS

6.13.1 Vendors shall to the greatest extent possible and at no additional cost to the Coast Guard use recovered materials that meet existing performance standards when performing work under this specification. It is the Government’s policy to use, in a cost-effective manner, products composed of the highest percentage of recovered materials practicable without adversely affecting performance requirements or exposing vendor employees to undue hazards from the recovered materials.

ITEM 1: PRODUCTION CONTROL, GANTT BAR CHART PROVIDE
MI_04100_JSP_0506_GENERAL

1 SCOPE

The intent of this item is to prepare a production control chart for accomplishment of the work items. This document shall be updated throughout the availability and furnished to Coast Guard personnel to track the progress of work and to coordinate Government witnessed inspection and testing.

Government Furnished Property: NONE

2 REFERENCES

Coast Guard Drawings: NONE

Applicable Documents:

[MLCPAC Standard Specification 041, 1/1/2000; Production Control, Gantt Bar Chart](#)

3 REQUIREMENTS

The Contractor shall provide all labor and material to accomplish the following in accordance with the General Requirements.

3.1 Provide all labor and material to prepare a Gantt chart for work items in accordance with the MLCPAC Std Spec 041. The Gantt charts shall show task interdependency (scheduling logic) for the work items.

3.2 Submit weekly progress reports for the entire availability period and any extensions thereof in accordance with the MLCPAC Std Spec 041.

3.3 The Contractor shall submit two paper copies of the Gantt Chart or electronics copies in one of the following format to the Contracting Officer no later than one week after contract award.

Microsoft Word Format

Microsoft Excel Format

Adobe PDF Format

3.4 In the event the cutters availability is not held at homeport, the cutter's crew will be berthed off the cutter during the first 2 weeks of the availability. To minimize crew displacement and cost of off-ship messing and berthing to the Coast Guard, the Contractor shall perform shipboard work on the following D-Items within specified Performance Period:

Item	Title	Performance Period
D-11	GREY WATER HOLDING TANK CLEAN AND INSPECT	First two weeks after arrival.

D-13	<u>SEWAGE HOLDING TANK AND ATMOSPHERIC TANK CLEAN & INSPECT</u>	First two weeks after arrival
------	---	-------------------------------

3.5 Inspection and Disassembly Plan:— To minimize adverse impact on the production work, the Contractor shall perform disassembly and inspection as required in the D-Items within initial 25 % of the contract availability. The Gantt Chart submitted to the Coast Inspector shall clearly show and schedule all inspection and disassembly as required in the D-Items.

3.6 All work performed under these specifications that affects navigational or electronics equipment normal operation (powered from the ship service diesel generators) shall be completed no later than 72 hours prior to the scheduled completion date of the availability.

3.7 Coordinate all inspections with the designated Coast Guard Inspector to minimize production delays.

ITEM 2: UNDERWATER PROPELLER CLEAN AND INSPECT

MI_24500_JPH_0904_225B

1 SCOPE

The intent of this item is to clean and inspect the propeller using divers in the water.

Government Furnished Property: NONE

2 REFERENCES

Coast Guard Drawings: NONE

Applicable Documents:

CG Tech Pub 3524, 1/7/1997; Manufacturer's Instruction Book-SWBS Group(s) 243-262

[29CFR1910.401; Commercial Diving Operations](#)

Naval Ship's Technical Manual (NSTM) Chapter 245, Propellers, Rev 5

3 REQUIREMENTS

The Contractor shall provide all labor and material to accomplish the following in accordance with the General Requirements:

3.1 TAG-OUT – Secure, isolate, and tag-out all affected mechanical, piping, and electrical systems in accordance with the General Requirements.

3.2 COMMERCIAL DIVERS

3.2.1 Contractor shall obtain the services of commercial divers. All diving operations shall abide by 29CFR1910.401.

3.2.2 Provide a certified and experienced diver and tender team, as well as necessary support personnel and equipment, to accomplish the work specified below. Provide the COTR 24 hours advance notice of when the diver cleaning and inspection will occur.

3.2.3 The diving team shall obtain Officer-of-the-Deck verification before beginning diving operations. Ship's force shall ensure that no propeller or rudder movements occur and that the standard "diver down" pipe is made until diving operations are concluded.

3.3 PROPELLER CLEANING AND POLISHING

3.3.1 Inspection–Perform visual inspection to locate any abnormal condition or obvious damage. Photograph or videotape existing state of propellers (before cleaning and polishing) and at conclusion of cleaning and polishing. Submit findings in a CFR and provide photograph/video documentation to COTR.

3.3.2 Cleaning–Completely clean all growth, dirt, and debris from the surfaces of the propeller blades and hubs. Do not use grinders; only stainless steel wire brushes are authorized. Use extreme care to ensure that metal removal is avoided.

3.3.3 Polishining–Polish the propeller hub and blades with a light power discing, using 400 grit or finer abrasive, to a 63 microinch RMS finish, removing as little material as possible to obtain this finish. Polishing may be accomplished with the propeller in place.

NOTE: Do not use metal scrapers within 6” inches of the blade edges. Use brushes and softwood wedges for these areas. CG Tech Pub 3524 depicts the Cutter’s controllable pitch propellers.

3.4 CLEARING TAGS – Restore all affected systems and clear tags in accordance with the General Requirements.

3.5 Coordinate all inspections with the designated Coast Guard Inspector to minimize production delays.

ITEM 3: MDE EXHAUST STACKS COMMERCIAL CLEAN
MI_25900_JAH_1204_225B

1 SCOPE

The intent of this item is to clean the interior of the exhaust piping on the No. 1 and No. 2 Main Diesel Engines.

Government Furnished Property: None

2 REFERENCES

Coast Guard Drawings:

225B-WLB 259-001, Rev C; Combustion Intake & Exhaust Diagram
225B-WLB 259-005, Rev C; Combustion Intak & Exhaust A&D Hull Block 940
225B-WLB 259-006, Rev B; Combustion Intake & Exhaust A&D Hull Block 970 & 975

Applicable Documents:

COMDTINST M10360.3B, B, Coatings and Colors Manual, 11/24/2003

3 REQUIREMENTS

The Contractor shall provide all labor and material to accomplish the following in accordance with the General Requirements:

NOTE: A Contractor ship check is encouraged to understand full scope of this work, including interferences and/or other potential work difficulties prior to submitting bid.

3.1 GENERAL

3.1.1 In the presence of the Coast Guard Inspector, inspect and test all equipment and systems that will be disturbed during the performance of this work to document their original condition. Submit a Condition Found Report for all such equipment and systems noting any existing (pre-work) discrepancies in their operation.

3.1.2 Tag-Outs – Secure, isolate, and tag-out all affected mechanical, piping, and electrical systems in accordance with the General Requirements.

3.1.3 Interferences – The Contractor shall remove, modify, or protect all interferences to the work. All interferences that are removed shall be tagged to facilitate proper reinstallation. Ensure that all removed equipment is kept in a clean, dry, protected location. Obtain verification from the Coast Guard Inspector for the protective measures taken for equipment not removed.

3.2 Contractor shall erect scaffolding and follow all pertinent safety precautions when working on and around the stacks including wearing hardhats, wearing safety harnesses and lifelines.

3.3 Contractor shall use a Contractor furnished cleaning equipment that will effectively remove and clean both MDEs' exhaust piping, including the mufflers, of soot deposits. All exhaust piping from MDE exit (defined as downstream flange of turbocharger) to stack terminus shall be cleaned. See referenced drawings to help determine layout of piping to be cleaned.

NOTE: This is a performance requirement. The end result must be clean exhaust piping free of soot. The exact type of equipment used, and how piping will be divided/sectioned during the cleaning operation is at discretion of Contractor to achieve the end result. The Contractor shall take all necessary precautions to protect machinery and equipment in the areas affected as a result of this work item.

3.3.1 The downstream flange of turbocharger shall be broken to facilitate cleaning and then immediately a blank flange (protective cover) shall be installed to prevent entry of any debris into turbocharger.

3.4 The Contractor shall propose a plan for collecting and disposing of waste extracted during cleaning process by submitting a report to the Coast Guard Inspector. Proposed plan shall detail how and where Exhaust Piping will be disconnected, how entire length of exhaust piping will be divided/sectioned for cleaning, and precautions to protect MDE. The Contractor shall perform this work upon receiving the Coast Guard's approval of the plan.

3.4.1 If contractors work plan allows, requires or permits personnel to enter exhaust stacks, mufflers or other confined spaces, the contractor must certify these spaces "Safe for Personnel" and "Safe for Hotwork" as appropriate, in accordance with the General Requirements and NSTM 074, Vol.3.

3.4.2 The mufflers shall be cleaned using the clean-out covers access in accordance with Dwg 167-WAT 5200-1. All drain lines need to be plugged and restored after this work Item is completed. When covers are reinstalled renew any damaged studs or fasteners and coat all fasteners with high temperature anti-seize.

3.4.3 The Contractor shall be responsible for restoring any exhaust pipe insulation disturbed to its pre-work condition as well as restoring any broken pipe connections required to perform cleaning.

3.4.4 Submit a CFR on the condition of all exhaust mufflers and piping.

3.5 When Contractor believes he has obtained a satisfactory cleaning results (of each individual section/length being cleaned), in the presence of the Coast Guard Inspector the Contractor shall inspect to determine if piping has been successfully cleaned of soot. If inspection reveals piping is not satisfactorily cleaned of soot Contractor shall continue cleaning process until satisfactory results are obtained (exhaust piping free of soot).

3.5.1 Upon completion of satisfactory cleaning, reassemble exhaust piping using new in kind Contractor furnished gaskets, fasteners, and lock-washers. During assembly coat all fasteners with high temperature anti-seize.

3.6 ACCEPTANCE TESTING

3.6.1 Clearing Tags – As needed for testing, restore all affected systems and clear tags in accordance with the General Requirements.

3.6.2 Test Performance – All acceptance tests shall be performed in the presence of the Coast Guard Inspector. Provide a written report to the Coast Guard Inspector of all test results within one week of test completion.

3.6.3 Operational Test – Verify proper operation of the components or systems affected by this work. During this testing, run the equipment through its full range of capabilities in all configurations and operating modes.

3.6.3.1 Test operate the main diesel engine to ensure that all connections which were opened during system cleaning have been reassembled tight and that there is no exhaust gas leakage. Repair all leaks until system is free of leaks.

3.7 RESTORATION

3.7.1 Dispose of all generated waste in accordance with the General Requirements, all federal, state and local laws and regulations.

3.7.2 Clean the affected and surrounding areas of any dirt, debris, liquid, etc. at completion of work to ensure these areas are restored to a pre-work condition of cleanliness.

3.7.3 Prepare and paint all new and disturbed surfaces in accordance with the General Requirements. Paint systems to match existing and COMDTINST M10360.3B.

3.7.4 Restore all interferences to their original condition in accordance with the General Requirements.

3.7.5 Clearing Tags – Restore all affected systems and clear any remaining tags in accordance with the General Requirements.

3.7.6 Coordinate all tests and inspections with the designated Coast Guard Inspector to minimize production delays.

ITEM 4: SSDG EXHAUST STACKS COMMERCIAL CLEAN
MI_25900_JAH_1204_225B

1 SCOPE

The intent of this item is to clean Ship Service Diesel Generator (SSDG) exhaust stacks.

Government Furnished Property: NONE

2 REFERENCES

Coast Guard Drawings:

225B-WLB 259-1, Rev C; Combustion Intake & Exhaust Diagram
225B-WLB 259-5, Rev C; Combustion Intake & Exhaust A&D Hull Block 940
225B-WLB 259-6, Rev B; Combustion Intake & Exhaust A & D Hull Block 970 & 975

Applicable Documents:

Naval Ships' Technical Manual, Chapter 074, Volume 3, Gas Free Engineering, 4/23/98

3 REQUIREMENTS

The Contractor shall provide all labor and material to accomplish the following in accordance with the General Requirements:

NOTE: A Contractor shipcheck is encouraged to understand full scope of this work, including interferences and/or other potential work difficulties prior to submitting bid.

3.1 TAG OUT – Secure, isolate and tag-out all affected mechanical, piping and electrical systems in accordance with the General Requirements.

3.1.1 Remove or protect all interferences. All interferences, lagging, insulation and exhaust piping that are removed shall be tagged/marked/labeled to facilitate proper reinstallation. Ensure that all removed equipment is kept in a clean, dry, and protected location. Obtain verification from the Coast Guard Inspector for the protective measures taken for equipment not removed.

3.2 Erect scaffolding as required and follow all pertinent safety precautions when working on and around the stacks including wearing hardhats, wearing safety harnesses and lifelines.

3.3 Use contractor furnished cleaning equipment that will effectively remove and clean both SSDGs' exhaust piping, including the mufflers of soot deposits. Clean all exhaust piping from SSDG exit (defined as cylinder exhaust manifold) to stack terminus. See referenced drawings to help determine layout of piping to be cleaned.

NOTE: This is a performance requirement. The end result must be clean exhaust piping free of soot. The exact type of equipment used, and how piping will be divided/sectioned during the cleaning operation is at discretion of Contractor to achieve the end result. The Contractor shall take all necessary precautions to protect machinery and equipment in the areas affected as a result of this work item.

3.3.1 The exhaust piping to the cylinder exhaust manifold shall be broken to facilitate cleaning and then immediately a blank flange (protective cover) shall be installed to prevent entry of any debris into turbocharger.

3.4 Collect and dispose of all waste extracted during cleaning process.

3.4.1 Submit a report to the Coast Guard Inspector. Proposed plan shall detail how and where Exhaust Piping will be disconnected, how entire length of exhaust piping will be divided/sectioned for cleaning, and precautions to protect SSDG. The Contractor shall perform this work upon receiving the Coast Guard's approval of the plan.

3.4.2 If contractors work plan allows, requires or permits personnel to enter exhaust stacks, mufflers or other confined spaces, the contractor must certify these spaces "Safe for Personnel" and "Safe for Hotwork" as appropriate, in accordance with the General Requirements and NSTM 074, Vol.3.

3.4.3 The mufflers shall be cleaned as possible by brushing out, but mufflers shall not be removed from the exhaust system.

3.4.3.1 Clean out the soot traps.

3.4.4 Restore any exhaust pipe insulation disturbed to its pre-work condition as well as restoring any broken pipe connections required to perform cleaning.

3.4.5 Submit a CFR on the condition of all exhaust mufflers and piping upon completion of work.

3.5 When Contractor believes he has obtained a satisfactory cleaning results (of each individual section/length being cleaned), in the presence of the Coast Guard Inspector the Contractor shall inspect to determine if piping has been successfully cleaned of soot. If inspection reveals piping is not satisfactorily cleaned of soot Contractor shall continue cleaning process until satisfactory results are obtained (exhaust piping free of soot).

3.5.1 Upon completion of satisfactory cleaning, reassemble exhaust piping using new in kind Contractor furnished gaskets, fasteners, and lock-washers. During assembly coat all fasteners with high temperature anti-seize.

3.6 Dispose of all generated waste in accordance with the General Requirements, all federal, state and local laws and regulations.

3.7 Contractor shall clean the affected and surrounding areas of any dirt, debris, liquid, etc. at completion of work to ensure these areas are restored to a pre-work condition of cleanliness.

3.8 CLEARING TAGS – Restore all systems and clear tags in accordance with the General Requirements.

3.9 The Contractor shall perform operational tests of any disturbed pipe connections for exhaust leaks prior to replacing insulation. Repair all leaks until system is free of leaks.

3.10 Coordinate all tests and inspections with the designated Coast Guard Inspector to minimize production delays.

ITEM 5: ELECTRIC METER CALIBRATION

MI_31100_JSP_1107_225A

1 SCOPE

The intent of this item is to calibrate specific electric meters.

Government Furnished Property: NONE

2 REFERENCES

Coast Guard Drawings: NONE

Applicable Documents:

[American National Standards Institute \(ANSI/NCSL\) Z540.1, Rev 1994 \(R2002\), 8/1/1994; General Requirements for Calibration and Measuring and Test Equipment](#)

3 REQUIREMENTS

The Contractor shall provide all labor and material to accomplish the following in accordance with the General Requirements:

3.1 GENERAL

3.1.1 TAG-OUTS – Secure, isolate, and tag-out all affected mechanical, piping, and electrical systems in accordance with the General Requirements.

3.1.2 Remove or protect all interferences. All interferences that are removed shall be tagged to facilitate proper reinstallations. Ensure that all removed equipment is kept clean, dry and protected location. Obtain verification from the Coast Guard Inspector for protective measures taken for equipment not removed.

3.1.3 Prior to disconnecting meter wiring leads, record and retain the connection information for use in later reconnection. Disconnected meter leads powered by current transformers (ammeter, wattmeter, power factor meter, etc.) shall be temporarily joined together or connected to a bypass meter(s) to maintain continuity of the current loop. Meter lead bare conductors shall be insulated when not connected to the meter. Any removed meter mounting hardware shall be retained for later reinstallation.

3.1.4 Provide all necessary lighting during the accomplishment of this work. Provide and install a temporary ammeter to monitor the shore power while the normal meter is removed for calibration

3.2 METER CALIBRATIONS

3.2.1 Disconnect and remove each meter listed in Para 3.7.

3.2.2 Record wiring data and retain mounting hardware.

3.2.3 Inspect lead wires and insulation, broken or partially broken lead wires shall be cut back to remove damaged portion of wires and install new terminal end to the wire.

- 3.2.4 Remove existing illegible wire marker and install new wire markers. Install new wire markers where missing. New wire markers shall be white marked with indelible ink.
- 3.2.5 Disassemble and clean equipment to remove loose paint and foreign matter.
- 3.2.6 Repair each meter and associated equipment to manufacturer's specification.
- 3.2.7 Remove existing meter and install new components where missing or defective.
- 3.2.8 Free-up and adjust moving parts.
- 3.2.9 Restore electric meter case to original condition.
- 3.2.10 Install new seals / gasket conforming to manufacture's specification.
- 3.2.11 Submit a Condition Found Report listing any meter or accessory that require substantial repair or replacement.
- 3.2.12 Calibrate and adjust each meter including associated accessories to manufacture's specification using appropriate calibration procedure and test equipment. Calibration laboratories shall be accredited by Commercial Accreditation or Certified in accordance with the ANSI/NCSL Z540.1.
- 3.2.13 Re-install each meter after calibration and connect each meter including associated accessories and mounting hardware.
- 3.2.14 Remove previous calibration labels. Affix a new calibration label to each meter showing date of calibration, due date for next calibration and name of the calibration activity or company. The label shall be placed on exterior (front or back) of the meter so that it is clearly visible without interfering with meter readings. Place transparent tape over any paper labels.
- 3.2.15 **Accuracy**:- Accuracy of the calibrated meter shall be in accordance with the Table as shown at the end of this specification.

3.3 DATA SHEET

- 3.3.1 For each meter calibrated, the Contractor shall provide Data Sheet with the following information:

Meter Location

Manufacturer of Meter

Meter Model No. & Serial No.

As Found Condition & Repairs Performed

Calibration Procedure Used

Final Calibration Data

Calibration Due Date

- 3.3.2 Submit two copies of calibration Data Sheet to the Coast Guard Inspector within five days of calibration.

3.4 ACCEPTANCE

3.4.1 The contractor shall operate each equipment of the calibrated meter in the presence of the Coast Guard Inspector to ensure correct indication of the system.

3.5 RESTORATION

3.5.1 CLEARING TAGS – Restore all affected systems and clear tags in accordance with the General Requirements.

3.5.2 Restore all interferences to their original condition in accordance with the General Requirements.

3.5.3 Restore work areas to a clean condition.

3.5.4 Coordinate all inspection with the designated Coast Guard Inspector to minimize production delays.

3.6 LIST OF ELECTRIC METERS

225' WLB Meter Calibration List

SERVICE		RANGE		UNIT	UNIT	EQUIPMENT	LOCATION
Voltage	0	to	600	VAC		Emergency Generator	1E Switchboard
Voltage	0	to	600	VAC	No. 1	Ship Service Diesel Generator	1S Switchboard
Voltage	0	to	600	VAC	No. 2	Ship Service Diesel Generator	2S Switchboard
Voltage	0	to	600	VAC		Thruster Generator	Thruster Switchboard
Frequency	55	to	65	Hz	No. 1	Thruster Generator	Thruster Switchboard
Current	0	to	600	A		Emergency Generator	1E Switchboard
Current	0	to	1000	A	No. 1	Ship Service Diesel Generator	1S Switchboard
Current	0	to	1000	A	No. 2	Ship Service Diesel Generator	2S Switchboard
Current	0	to	2000	A		Thruster Generator	Thruster Switchboard
Real Power	0	to	400	kW		Emergency Generator	1E Switchboard
Real Power	0	to	650	kW	No. 1	Ship Service Diesel Generator	1S Switchboard
Real Power	0	to	650	kW	No. 2	Ship Service Diesel Generator	2S Switchboard
Real Power	0	to	1400	kW		Thruster Generator	Thruster Switchboard
Frequency	55	to	65	Hz		Emergency Generator	1E Switchboard
Frequency	55	to	65	Hz	No. 1	Ship Service Diesel Generator	1S Switchboard
Frequency	55	to	65	Hz	No. 2	Ship Service Diesel Generator	2S Switchboard
Synchroscope	0	to	360	°	1E	Switchboard	Emergency Generator Room
Synchroscope	0	to	360	°	1S	Switchboard	Engineering Control Center
Synchroscope	0	to	360	°	2S	Switchboard	Engineering Control Center
Frequency	50	to	70	Hz		IC Switchboard	IC & Gyro Room
Voltage	0	to	150	VAC		IC Switchboard	IC & Gyro Room
Current	0	to	20	A		Test Switchboard	Boatswain's Hole

SERVICE		RANGE		UNIT	UNIT	EQUIPMENT	LOCATION
Current	0	to	20	ADC		Test Switchboard	Boatswain's Hole
Voltage	0	to	150	VAC		Test Switchboard	Boatswain's Hole
Voltage	0	to	150	VDC		Test Switchboard	Boatswain's Hole
Current	0	to	20	A		Test Switchboard	EM Shop
Current	0	to	20	ADC		Test Switchboard	EM Shop
Voltage	0	to	150	VAC		Test Switchboard	EM Shop
Voltage	0	to	150	VDC		Test Switchboard	EM Shop

ITEM 6: INSPECT AND TEST CIRCUIT BREAKERS, 60 HZ

MI_32000_JSP_1107_225B

1 SCOPE

The intent of this item is to test Circuit Breakers (60 Hz) located on Main, Emergency and Thruster Switchboard.

Government Furnished Property: NONE

2 REFERENCES

Coast Guard Drawings:

225B-WLB 320-001, Rev A; Electrical One-Line Diagram

Applicable Documents:

[National Electrical Manufacturers Association \(NEMA\) AB4, 1/1/2003; Guidelines for Inspection and Preventive Maintenance of Molded Case Circuit Breakers Used in Commercial and Industrial Applications](#)

[Underwriters Laboratories Inc. \(UL\) 489, Rev Edition 10, 5/25/2002; Molded Case Circuit Breaker](#)
CG Tech Pub 3534A, 1, Manufacturer's Instruction Book--SWBS Group(s) 324, 3/9/2000

3 REQUIREMENTS

The Contractor shall provide all labor and material to accomplish the following in accordance with the General Requirements:

3.1 GENERAL

3.1.1 Tag-Outs – Secure, isolate, and tag-out all affected mechanical, piping and electrical systems in accordance with the General Requirements.

3.1.2 Remove and protect all interferences. All interferences that are removed shall be tagged to facilitate proper reinstallation. Ensure that all removed equipment is kept in a clean, dry and protected location. Obtain verification from the Coast Guard Inspector for protective measures taken for equipment not removed.

3.1.3 Prior to any wiring disconnection and removal of circuit breakers, the Contractor shall record all wiring information, trip setting adjustments, and equipment locations necessary for use in later reinstallation. Retain all mounting and connecting hardware for later reuse. Submit recorded data to the Coast Guard Inspector. Electrical wiring is shown on CG DWG 225B-320-001 and CG Tech Pub 3534A.

3.1.4 Disconnect and remove the circuit breakers listed in the Para 3.7. Coordinate the disconnection and removal of the circuit breakers with the Coast Guard Inspector to minimize disruption of power. Temporarily cover or insulate switchboard or panel board openings created by the removal of circuit breakers to prevent personnel contact with energized conductors.

3.1.5 The Contractor shall notify the Coast Guard Inspector 48 Hours prior to start work on this item.

3.1.6 The Contractor shall inspect the wire connectors, screws and plating. If there is evidence of cross threading or binding, the Contractor shall replace the connector assembly.

3.1.7 If the wire connectors are damaged, the Contractor shall replace damaged wire connectors.

3.1.8 The Contractor shall record Circuit Breaker setting (i.e. Long Time Delay, Instantaneous Pick Up, Short Time Pick Up, Ground Fault Delay, Delay at 6XP & 12XP) and submit data to the Coast Guard Inspector with CFR.

3.2 CIRCUIT BREAKER TESTING

3.2.1 The contractor shall test all circuit breakers listed in the Para 3.7 in accordance with the National Electrical Manufacturers Association (NEMA) AB 4 or UL 489 Molded Case Circuit Breakers. The test shall include, at a minimum:

Mechanical Operation

Insulation Resistance

Individual Pole Resistance

Inverse-Time Over current Tripping

Instantaneous Over current Tripping

Rated Hold-In Current (Note: Perform this test only on the Circuit Breaker which are tripping under normal load condition. The Coast Inspector will identify the Circuit Breakers).

3.2.2 Any repairs needed as a result of damage due to testing procedures, as opposed to defective workmanship or material, shall be the responsibility of the Contractor.

3.3 CIRCUIT BREAKER DATA SHEET & INSPECTION

3.3.1 The contractor shall provide Data Sheet of each circuit breaker testing with the following information:

Circuit Breaker Model and Serial Number

Circuit Breaker Service

Circuit Breaker Visual Condition

Test Voltage / Test Amperes

Type of Test / Test Method / Test Date / Name of Test Laboratory

Result of Testing

3.3.2 Surface burn marks and hairline cracks are acceptable but shall not deteriorate the mold surface or impair physical strength. Cracks are not permitted in wall section between phase and a ground plane when there is a conducting part in contact with the wall section. Surface burn marks and Cracks shall not exceed 0.75 inch in length, and in no case should be greater than 50 percent of the length of the surface in which the crack appears. Submit a CFR to the Coast Guard Inspector.

3.4 CIRCUIT BREAKER INSTALLATION

3.4.1 Prior to circuit breaker reinstallation, isolate, tag-out, and secure all affected electrical systems in accordance with General Requirements. Reinstall circuit breakers using information obtained in paragraph 3.1.3.

3.4.2 Coordinate an operational test of all affected circuit breakers in the presence of the Coast Guard Inspector.

3.5 CIRCUIT BREAKER RENEWAL

3.5.1 The Contractor shall submit list of circuit breakers which shall be replaced in lieu of testing due to high cost of labor for testing or non available near by testing facilities. The Contractor shall also inspect all circuit breakers and make recommendation to the Coast Guard Inspector for replacement due to physical or operational condition of circuit breakers.

3.5.2 The Contractor shall submit list of these circuit breakers within two weeks of the contract award to the Contracting Officer.

3.5.3 The replacement circuit breakers shall be form, fit and function of the original circuit breakers.

3.5.4 The replacement circuit breakers shall be UL 489 Certified.

3.6 ACCEPTANCE TESTING

3.6.1 Clearing Tags – As needed for testing, restore all affected systems and clear tags in accordance with the General Requirements.

3.6.2 Test Performance – All acceptance tests shall be performed in the presence of the Coast Guard Inspector. Provide a written report to the Coast Guard Inspector of all test results within one week of test completion.

3.6.3 After completion of circuit breaker installation in the switchboard, perform power “on-off” test on the system.

3.6.4 Direction of Rotation Test – Perform a direction of rotation test on each new and disturbed three-phase motor circuit.

3.7 RESTORATION

3.7.1 Restore all systems and clear tags in accordance with the General Requirements.

3.7.2 Restore all interferences.

3.7.3 Restore affected work areas to clean condition.

3.7.4 Coordinate all inspections and test with the designated Coast Guard Inspector to minimize production delays.

3.8 LIST OF CIRCUIT BREAKERS FOR TESTING

MAIN SWITCHBOARD CIRCUIT BREAKER LIST

Quantity	Description	Service	SIEMENS Part No.
2	1600AF,1200AMP,450VAC, 3P	S/S Generator No.1 & 2	RLAS1EAHXBA06D-U7
2	800AF,400AMP,450VAC, 3P	Shore Power No.1 & 2	RLAS8EAEXBA06D-U7
1	1600AF,1200AMP,450VAC,3P	Bus Tie	RLAS1EAHXBA06D-U7

Quantity	Description	Service	SIEMENS Part No.
2	800AF,800AMP,450VAC,3P	FWD Deck M/C No.1 & 2	RLAS8EAGXBA06D
1	400AF,400AMP,450VAC,3P	S/S Switchboard /Emergency Switchboard Bus Tie	JXD63M400
2	225AF,225AMP,450VAC,3P	Aux Power Panel (P36) & SORS HPU	FXD63M225
5	225AF, 200AMP,450VAC,3P	Power Panels (P3,P24,P26), Fire Pump No.1 & 2	FXD63M200
2	125AF,125AMP,450VAC,3P	Power Panel (P25) & Vent Power Panel(P12)	ED63M125
2	125AF,100AMP,450VAC,3P	Misc Power Panel, Heater Panels (P1, P4, P22), Aux Power Panel	ED63M100
5	250AF,150AMP,450VAC,3P	Heater Panel (P2 on 120V Panel), Aux Power Panel (P37), MMR Aux Panel(P26) 250AF, 100AT, 450VAC, 3P, Domestic Service Power Panel(P11)	FXD63M150
1	250AF,250AMP,450VAC,3P	AMR Vital Panel (P30)	FXD63M250
2	250AF,100AMP,450VAC,3P	NO.1 & 2 ATF Deck & RHIB Davit	FXD63B100
2	AFIT VAC, 3P	Steering Pumps 1&2	EMD63125

EMERGENCY SWITCHBOARD CIRCUIT BREAKER LIST

Quantity	Description	Service	SIEMENS Part No.
1	800AF, 800AMP,450VAC,3P	S/S Switchboard/Emergency Switchboard Bus Tie	RLAS8EAFXBA06D
1	800AF,800AT,450VAC,3P	Emergency Generator	RLAS8EAFXBA06D
2	125AF,125AT,450VAC,3P	MMR Vital Panel (P25) & Port Boat Davit	ED63M1255
2	250AF,250AMP,450VAC,3P	MMR Vital Panel (P30) & CP	FXD63M250
1	250AF,200AMP,450VAC,3P	Fire Pump No.1 & 2,	FXD63M200

Quantity	Description	Service	SIEMENS Part No.
2	125AF, 420IT, 45 0VAC,3P	Steering gear No.1& 2 HPU,	EMD63125

THRUSTER SWITCHBOARD: CIRCUIT BREAKER LIST

Quantity	Description	Service	SIEMENS Part No.
1	2000AF, 1600AT	Thruster Generator	SBA2016DV
1	1200AF,900AT	Stern Thruster	SBA2012DV
1	800AF,750AT	Bow Thruster	SBA0808DV

ITEM 7: LEVEL WIND ARM SAFETY INTERLOCK INSTALLATION

EC086_43700_JSP_0408_225

1 SCOPE

The intent of this item is for the Contractor to install safety interlock to Level Wind Arm from moving while the Cargo Hatch is open.

Government Furnished Property: NONE

2 REFERENCES

Coast Guard Drawings:

225B-WLB 437-1, Rev B; Tank Level Ind Systems Block, Wiring Deck Plan & E
225-WLB 573-206, Rev B; Integrated Buoy Handling Control System
225-WLB 573-7, Rev B; Cargo Hatch Control Block and Schematic

Applicable Documents:

[MIL-DTL-24643, Rev B, Sup 1A; Cables and Cords, Electric, Low Smoke, For Shipboard Use, General Specification for](#)
[MLCPAC Standard Specification 304.1, 3/1/2000; Shipboard Electrical Cable Test](#)
[MLCPAC Standard Specification 304.2, 3/1/2000; Shipboard Electrical Cable Removal, Relocation, Splice, Repair and Installation](#)

3 REQUIREMENTS

The Contractor shall provide all labor and material to accomplish the following in accordance with the General Requirements:

3.1 GENERAL

3.1.1 In the presence of the Coast Guard Inspector, inspect and test all equipment and systems that will be disturbed during the performance of this work to document their original condition. Submit a Condition Found Report for all such equipment and systems noting any existing (pre-work) discrepancies in their operation.

3.1.2 Tag-Outs – Secure, isolate, and tag-out all affected mechanical, piping, and electrical systems in accordance with the General Requirements.

3.1.2.1 Tag out the Power Panel (1-21-1)-1P-H (i.e. 225B-WLB-437-007 Sheet 6 Zone 70A) and Cargo Hatch Electronic Box. Also Tag Out Terminal Box K1EH1.

3.1.3 Interferences – The Contractor shall remove, modify, or protect all interferences to the work. All interferences that are removed shall be tagged to facilitate proper reinstallation. Ensure that all removed equipment is kept in a clean, dry, protected location. Obtain verification from the Coast Guard Inspector for the protective measures taken for equipment not removed.

3.1.4 Material: The contractor shall provide miscellaneous hardware required for electrical installation (i.e. Nylon Stuffing Tubes, Box Connectors, Lugs, Fasteners, Wire Nuts, Tapes, Cable ties & Cable Mounting Brackets, etc) of the Safety Interlock.

3.1.4.1 The Contractor shall following material listed in the Table:

QUANTIT Y	SPECIFICATION	SUGGESTED SOURCE OF SUPPLY
2	Relay Socket, Part No. 70-718D5-1	Magnecraft, 191 Waukeagn Road, Ste 206, Northfield, IL 60093, Email:info@magnecraft.com
2	Relay, 120 Volt, 15 Amp, Part No. 718- XAXM4L-120A	Magnecraft, 191 Waukeagn Road, Ste 206, Northfield, IL 60093, Email:info@magnecraft.com
30 Feet	Two Conductor Cable, low smoke,LSDSGU-4 (MIL-DTL-24643), NSN: 6145-01-202-2795	www.anixter.com

3.2 REMOVAL

3.2.1 The Contractor shall remove the cables in accordance with the MLCPAC Std 304.2. Submit the Condition Found Report to the Coast Guard Inspector.

3.2.2 The Contractor shall remove Relay (R1) and Socket from the Cargo Hatch Electronics Box as shown in the Figure #1.

3.2.3 Remove the white conductor (Wire No. K-1EH612) of the Cable K-1EH9A (For Hull No. 208) or K-1EH9 (For Hull No. 206, 207 and 209 through 216, LSFSGS-4) in the Terminal Box K-1EH1 Terminal No.3 as shown on the CG DWG, 225B WLB-437-007 (Sheet 7 Zone 81D) and Figure #2.

3.3 INSTALLATION

3.3.1 The Contractor shall install Socket and Relay (Magnecraft & Shutters Dunn) in the location of old Remove Relay (R1). Install new Relay (R2) at the right side of the Relay (R1).

3.3.2 Install LSDSGU-4 cable K-1EH9B (For Hull 208) or LSDSGU-4-Cable K-1EH9A (For Hulls 206,207 & 209 through 216) from the Cargo Hatch Electronic Box to Terminal Box (KEEH10 in accordance with the CG DWG 225B WLB-437-007 (Sheet 7 Zone 78 G & H).

3.3.3 Reconnect white conductor (Wire No. K-1EH612) of cable K-1EH9A (For Hull 208) or K-1EH9 (For Hull 206,207,209 through 216,LSFSGS-4) which was disconnected as per Para 3.2.2 to Pin No.8. See Figure 2 for Reference.

3.4 ACCEPTANCE TESTING

3.4.1 Clearing Tags – As needed for testing, restore all affected systems and clear tags in accordance with the General Requirements.

3.4.2 Test Performance – All acceptance tests shall be performed in the presence of the Coast Guard Inspector. Provide a written report to the Coast Guard Inspector of all test results within one week of test completion.

3.4.3 Verify that all the cables are connected in accordance with the CG DWG 225B WLB-437-007 (Sheet 7 Zone 78 G & H).

3.4.4 Test new and removed cables in accordance with MLCPAC Std 304.1 in the presence of the Coast Guard Inspector.

3.4.5 Test operate to ensure level wind arm does not move while cargo hatch is open.

3.5 RESTORATION

3.5.1 Prepare and paint all new and disturbed surfaces in accordance with the General Requirements.

3.5.2 Restore all interferences to their original condition in accordance with the General Requirements.

3.5.3 Clearing Tags – Restore all affected systems and clear any remaining tags in accordance with the General Requirements.

FIGURE 1
CARGO HATCH ELECTRONIC BOX

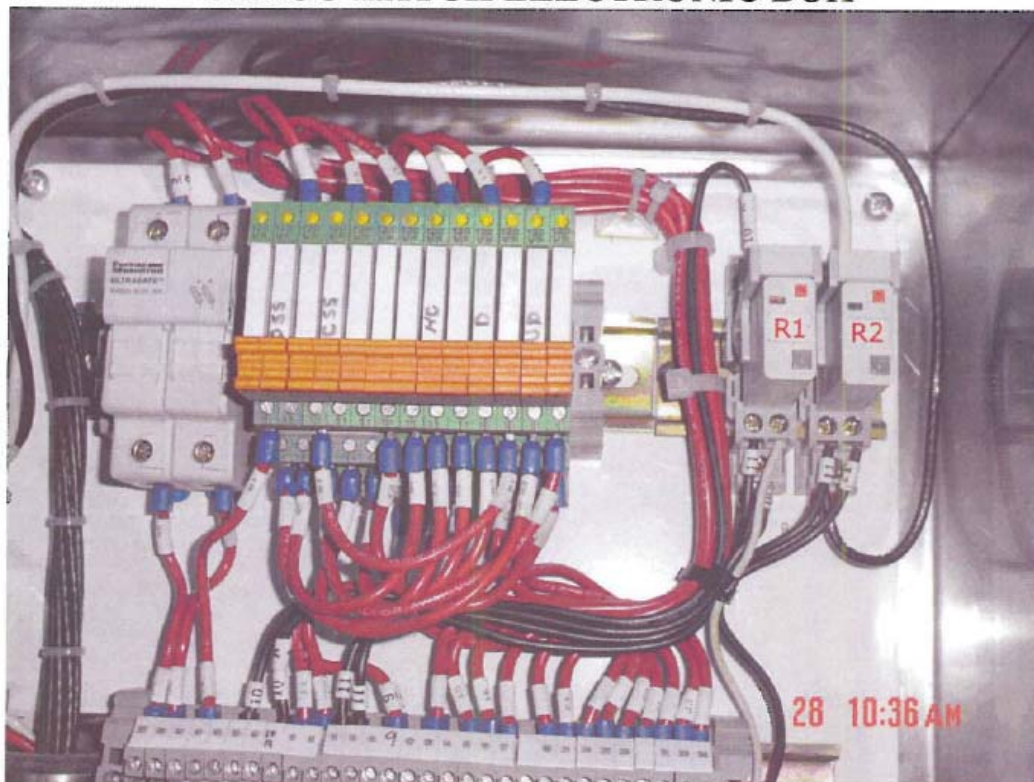


FIGURE 2
TERMINAL BOX K1EH1

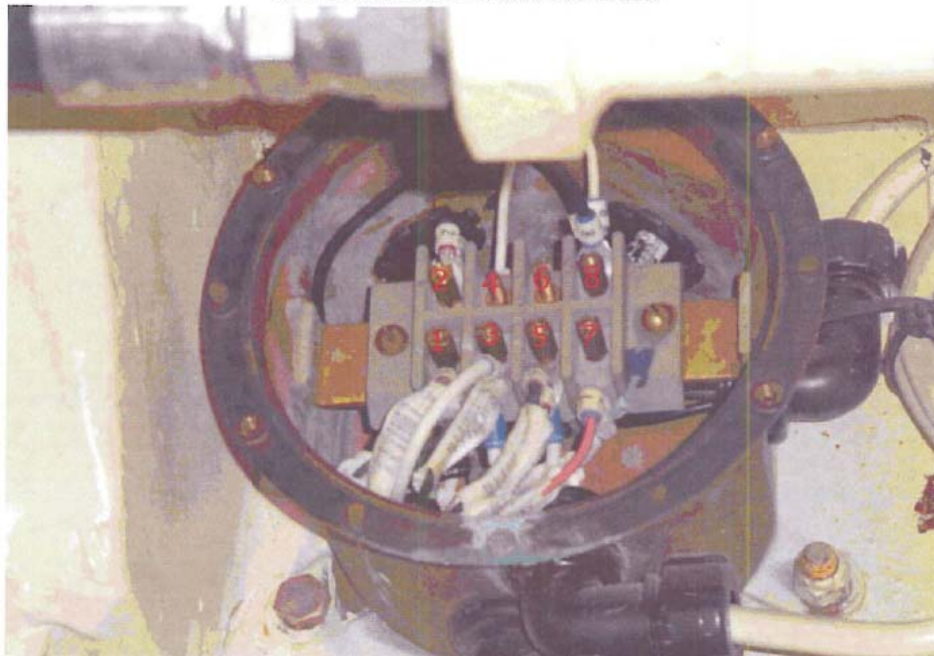


FIGURE 1
CARGO HATCH ELECTRONIC BOX

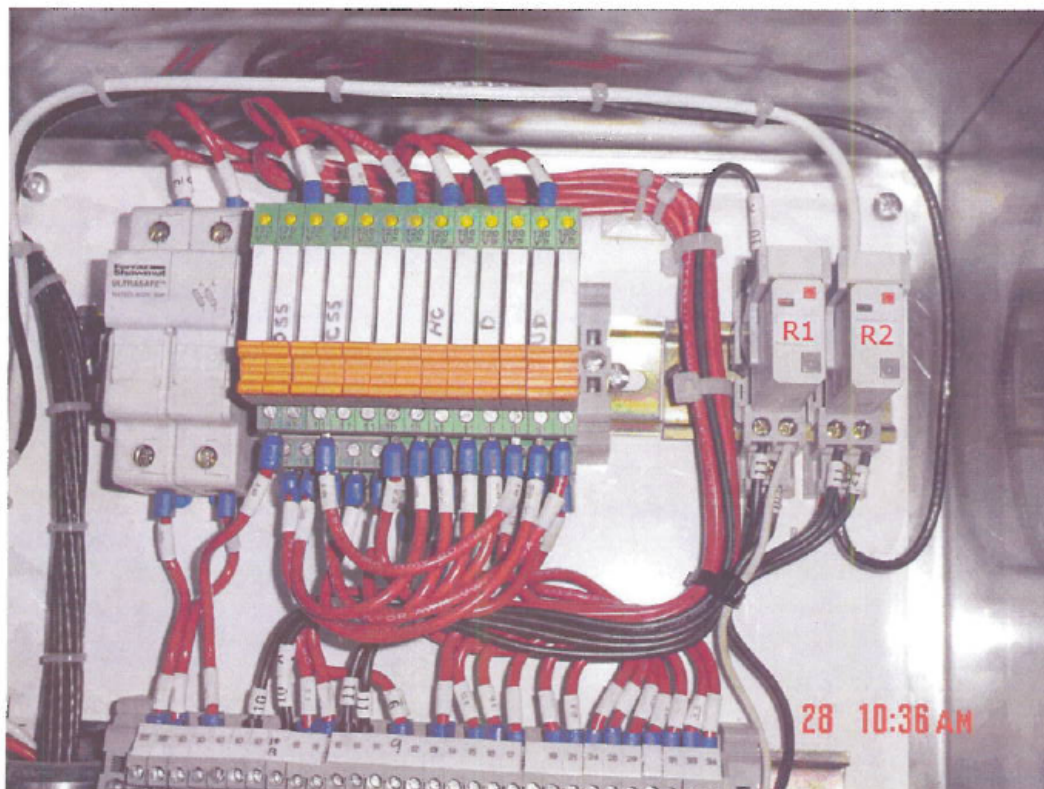
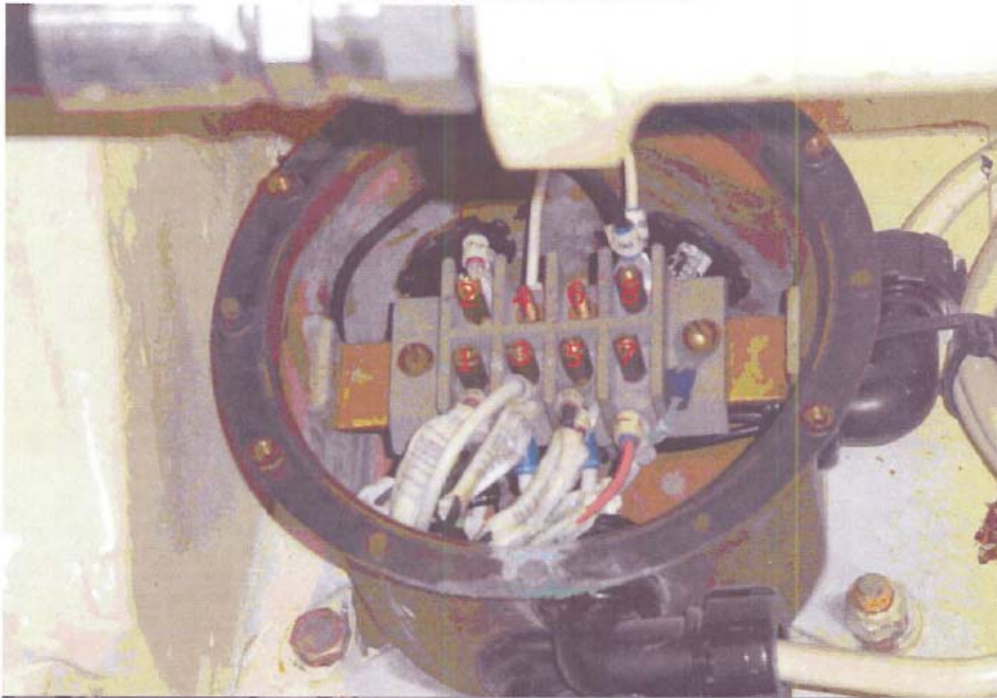
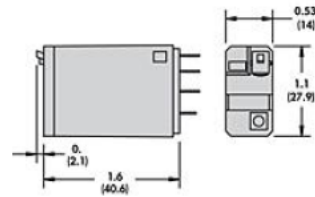


FIGURE 2
TERMINAL BOX K1EH1



Magnecraft
191 Waukegan Rd, Ste 206
Northfield, IL 60093-2743
Phone: (847)441-2526
Fax: (847)441-2522
Email: info@magnecraft.com

Item # 781XAXM4L-120A, 781 Ice Cube Relays / SPDT, 20 Amp Rating and Low Level (DC and AC)



Magnecraft
191 Waukegan Rd, Ste 206
Northfield, IL 60093-2743
Phone: (847)441-2526
Fax: (847)441-2522
Email: info@magnecraft.com

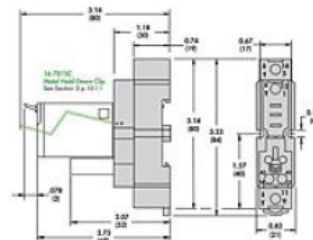
Item # 70-781D5-1, 70-781D5-1 Socket / 20 Amp Rating, 300 Volts

70-781D5-1 Socket / 20 Amp Rating, 300 Volts

Supersedes: 70-781D-1

5 Pin Socket, Finger Safe, DIN/Panel Mount with Screw Terminals & Clamping Plates. This socket will not accept the new plastic ID clip (16-781IDC).

This Item is Normally Stocked



ITEM 8: PRESSURE GAUGES AND THERMOMETERS (CRITICAL) CALIBRATION

MI_50400_FBM_0105_225B_212

1 SCOPE

The intent of this item is for the Contractor to clean, adjust, and calibrate pressure and thermometer gauges listed in the enclosed Figure, List of Pressure and Thermometer (Critical) Gauges.

Government Furnished Property: NONE

2 REFERENCES

Coast Guard Drawings: NONE

Applicable Documents:

Naval Ships' Technical Manual, Chapter 491, 1, Electrical Measuring and Test Instruments, 9/1/1999
Naval Ships' Technical Manual, Chapter 504, 2, Pressure, Temperature and Other Mechanical and
Electrical Measuring Instruments, 12/1/2001

3 REQUIREMENTS

The Contractor shall provide all labor and material to accomplish the following in accordance with the General Requirements:

3.1 **TAG-OUTS** – Isolate, secure, and tag-out, all affected mechanical, piping, and electrical systems in accordance with the General Requirements.

3.2 In the presence of the Coast Guard Inspector, check, clean and calibrate all pressure and thermometer gauges identified in the enclosed Figure "List of Pressure and Thermometer (Critical) Gauges." Disconnect and remove the affected gauges and their associated components/accessories from their respective systems for calibration. Extreme care in handling of components must be exercised to avoid bending or otherwise distorting them. Submit a Condition Found Report (CFR) of those pressure and thermometers gauges that cannot be calibrated. Cutter personnel will assist in locating and identifying all affected gauges listed in the enclosed Figure "List of Pressure and Thermometer (Critical) Gauges." Plug, cap, blank flange or otherwise seal opening in-place of the removed gauges to prevent contamination and maintain system cleanliness. Provide labels to the removed components for identification during reinstallation.

3.2.1 If at all possible, all gauges should be tested in place to minimize disturbance and breakage.

3.3 In the presence of the Coast Guard Inspector, clean, adjust and calibrate the gauges in accordance with NSTM Chapters 491 and 504.

3.3.1 Except for gauges which are not intended to have the gauge face removed, affix a calibration label underneath the gauge glass of each unit denoting the name and location of the calibration facility, the date of calibration, and due date of next calibration to the face of the unit. For gauges not intended to be disassembled, affix calibration label on gauge face. Ensure calibration label does not interfere with gauge reading and is clearly visible. Remove existing /old label(s) prior to attaching the new label.

3.4 Upon completion of shop work (or in-place work) including all required calibration and labeling, remove blank flanges/pipe plugs if any, and reinstall gauges (along with their sending/remote indicating units if they were removed) to their parent locations aboard the ship.

3.4.1 Renew gaskets and seals.

3.4.2 Renew broken or cracked faces (gage glass).

3.5 In the presence of the Coast Guard Inspector, operate affected systems at maximum operating conditions during sea trial to verify proper indication of calibrated gauges and tightness of reinstalled mechanical components. No leaks allowed. Correct any deficiencies found and retest.

3.6 Where existing system piping cleanliness has been lost in localized area or due to contamination (such as metal shavings deposited while removing or installing components), cleanliness can be reestablished by locally swabbing, vacuuming, wiping, etc.

3.7 The Contractor shall submit a copy of the CFR of the findings of the above inspections and tests to the Coast Guard Inspector.

3.8 **CLEARING TAGS** – Restore all affected systems and clear tags in accordance with the General Requirements.

3.9 Restore affected work areas to a clean condition.

3.10 Coordinate all inspections and tests with the Coast Guard Inspector to minimize production delays.

LIST OF PRESSURE AND THERMOMETER (CRITICAL) GAUGES

USCGC HICKORY (WLB-212)

ITEM #	LOCATION	SYSTEM	ITEM	USE
1.	U/L MMR NEAR #1 SSG	1 SSG	PRES_GAUGE	F/O STRAINER OUTLET
2.	U/L MMR NEAR #1 SSG	1 SSG	PRES_GAUGE	F/O STRAINER INLET
3.	U/L MMR ON GAGE PNL	1 SSG	TEMP_GAUGE	JACKET WATER TEMP
4.	U/L MMR ON GAGE PNL	1 SSG	TEMP_GAUGE	MANIFOLD AIR TEMP
5.	U/L MMR ON GAGE PNL	1 SSG	PRES_GAUGE	ENGINE OIL PRESSURE
6.	U/L MMR ON GAGE PNL	1 SSG	TEMP_GAUGE	ENGINE OIL TEMP
7.	U/L MMR ON GAGE PNL	1 SSG	PRES_GAUGE	OIL FILTER DIFFERENTIAL
8.	U/L MMR ON GAGE PNL	1 SSG	PRES_GAUGE	FUEL PRESSURE
9.	U/L MMR ON GAGE PNL	1 SSG	PRES_GAUGE	AIR RESTRICTION LEFT
10.	U/L MMR ON GAGE PNL	1 SSG	PRES_GAUGE	AIR RESTRICTION RIGHT
11.	U/L MMR ON GAGE PNL	1 SSG	PRES_GAUGE	FUEL FILTER DIFFERENTIAL
12.	U/L MMR PORT OUTBD	1 SSG	PRES_GAUGE	S/W DISCHARGE PRESSURE
13.	U/L MMR PORT OUTBD	1 SSG	PRES_GAUGE	S/W SUCTION PRESSURE
14.	U/L MMR NEAR #2 SSG	2 SSG	PRES_GAUGE	F/O STRAINER OUTLET
15.	U/L MMR NEAR #2 SSG	2 SSG	PRES_GAUGE	F/O STRAINER INLET
16.	U/L MMR ON GAGE PNL	2 SSG	TEMP_GAUGE	JACKET WATER TEMP

ITEM #	LOCATION	SYSTEM	ITEM	USE
17.	U/L MMR ON GAGE PNL	2 SSG	TEMP_GAUGE	MANIFOLD AIR TEMP
18.	U/L MMR ON GAGE PNL	2 SSG	PRES_GAUGE	ENGINE OIL PRESSURE
19.	U/L MMR ON GAGE PNL	2 SSG	PRES_GAUGE	ENGINE OIL TEMP
20.	U/L MMR ON GAGE PNL	2 SSG	PRES_GAUGE	OIL FILTER DIFFERENTIAL
21.	U/L MMR ON GAGE PNL	2 SSG	PRES_GAUGE	FUEL PRESSURE
22.	U/L MMR ON GAGE PNL	2 SSG	PRES_GAUGE	AIR RESTRICTION LEFT
23.	U/L MMR ON GAGE PNL	2 SSG	PRES_GAUGE	AIR RESTRICTION RIGHT
24.	U/L MMR ON GAGE PNL	2 SSG	PRES_GAUGE	FUEL FILTER DIFFERENTIAL
25.	U/L MMR PORT OUTBD	2 SSG	PRES_GAUGE	S/W DISCHARGE PRESSURE
26.	U/L MMR PORT OUTBD	2 SSG	PRES_GAUGE	S/W SUCTION PRESSURE
27.	U/L MMR AFT BLKHD	ST/A	PRES_GAUGE	MAIN BANK PRESS
28.	U/L MMR AFT BLKHD	ST/A	PRES_GAUGE	COMP #1 DISCH PRESS
29.	U/L MMR AFT BLKHD	ST/A	PRES_GAUGE	COMP #2 DISCH PRESS
30.	U/L AMR ON BLKHD 82	ST/A	PRES_GAUGE	RECEIVER PRESSURE #1
31.	U/L AMR PORT OUTBD	ST/A	PRES_GAUGE	RECEIVER PRESSURE #2
32.	L/L MMR STBD BY CONT	F/M	PRES_GAUGE	SUCTION
33.	L/L MMR STBD BY CONT	F/M	PRES_GAUGE	DISCH PRESSURE
34.	L/L AMR STBD BY PUMP	F/M	PRES_GAUGE	SUCTION

ITEM #	LOCATION	SYSTEM	ITEM	USE
35.	L/L AMR STBD BY PUMP	F/M	PRES_GAUGE	DISCH PRESSURE
36.	U/L MMR AFT BLKHD	F/M	PRES_GAUGE	EMERG S/W SUPPLY
37.	L/L MMR PORT OUTBD	F/M	PRES_GAUGE	EDUCTOR SUPPLY
38.	L/L MMR AFT ON CONT PNL	CPP	PRES_GAUGE	MAIN PUMP SUCTION
39.	L/L MMR AFT ON CONT PNL	CPP	PRES_GAUGE	MAIN PUMP PRESSURE
40.	L/L MMR AFT ON CONT PNL	CPP	PRES_GAUGE	STBY PUMP SUCTION
41.	L/L MMR AFT ON CONT PNL	CPP	PRES_GAUGE	STBY PUMP PRESSURE
42.	L/L MMR AFT ON CONT PNL	CPP	PRES_GAUGE	RETURN OIL BACKPRESS
43.	L/L MMR ON GAGE PNL	1 MDE	TEMP_GAUGE	JACKET WATER TEMP
44.	L/L MMR ON GAGE PNL	1 MDE	TEMP_GAUGE	AIR INLET MANIFOLD TEMP
45.	L/L MMR ON GAGE PNL	1 MDE	PRES_GAUGE	AIR INLET MANIFOLD PRESS
46.	L/L MMR ON GAGE PNL	1 MDE	PRES_GAUGE	ENGINE OIL PRESSURE
47.	L/L MMR ON GAGE PNL	1 MDE	TEMP_GAUGE	ENGINE OIL TEMP
48.	L/L MMR ON GAGE PNL	1 MDE	PRES_GAUGE	OIL FILTER DIFFERENTIAL
49.	L/L MMR ON GAGE PNL	1 MDE	PRES_GAUGE	FUEL FILTER DIFFERENTIAL
50.	L/L MMR ON GAGE PNL	1 MDE	PRES_GAUGE	FUEL PRESSURE
51.	L/L MMR OUTBD #1 MDE	1 MDE	PRES_GAUGE	R/W SUCTION
52.	L/L MMR OUTBD #1 MDE	1 MDE	PRES_GAUGE	R/W DISCHARGE

ITEM #	LOCATION	SYSTEM	ITEM	USE
53.	L/L MMR BY RACORS	1 MDE	PRES_GAUGE	FO BOOST PUMP SUCTION
54.	L/L MMR BY RACORS	1 MDE	PRES_GAUGE	FO BOOST PUMP DISCH
55.	L/L MMR ON GAGE PNL	2 MDE	TEMP_GAUGE	JACKET WATER TEMP
56.	L/L MMR ON GAGE PNL	2 MDE	TEMP_GAUGE	AIR INLET MANIFOLD TEMP
57.	L/L MMR ON GAGE PNL	2 MDE	PRES_GAUGE	AIR INLET MANIFOLD PRESS
58.	L/L MMR ON GAGE PNL	2 MDE	PRES_GAUGE	ENGINE OIL PRESSURE
59.	L/L MMR ON GAGE PNL	2 MDE	TEMP_GAUGE	ENGINE OIL TEMP
60.	L/L MMR ON GAGE PNL	2 MDE	PRES_GAUGE	OIL FILTER DIFFERENTIAL
61.	L/L MMR ON GAGE PNL	2 MDE	PRES_GAUGE	FUEL FILTER DIFFERENTIAL
62.	L/L MMR ON GAGE PNL	2 MDE	PRES_GAUGE	FUEL PRESSURE
63.	L/L MMR INBD #2 MDE	2 MDE	PRES_GAUGE	R/W SUCTION
64.	L/L MMR INBD #2 MDE	2 MDE	PRES_GAUGE	R/W DISCHARGE
65.	L/L MMR BY RACORS	2 MDE	PRES_GAUGE	FO BOOST PUMP SUCTION
66.	L/L MMR BY RACORS	2 MDE	PRES_GAUGE	FO BOOST PUMP DISCH
67.	L/L MMR BY PORT CLCH	R/G	PRES_GAUGE	LO COOLER R/W IN PRESS
68.	L/L MMR BY STBD CLCH	R/G	TEMP_GAUGE	LO COOLER R/W OUT TEMP
69.	L/L MMR BY PORT CLCH		TEMP_GAUGE	OIL TEMP
70.	U/L MMR AFT BY COMPS	S/S AIR	PRES_GAUGE	MRG STA OUTLET PRESS

ITEM #	LOCATION	SYSTEM	ITEM	USE
71.	U/L MMR AFT BY COMPS	CLUTCH AIR	PRES_GAUGE	MRG STA OUTLET PRESS
72.	L/L AMR STBD OUTBD	AMR EDUCTOR	PRES_GAUGE	SUCTION
73.	L/L AMR FWD BLKHD	ASW	PRES_GAUGE	PUMP #1 SUCTION
74.	L/L AMR FWD BLKHD	ASW	PRES_GAUGE	PUMP #1 DISCHARGE
75.	L/L AMR FWD BLKHD	ASW	PRES_GAUGE	PUMP #2 SUCTION
76.	L/L AMR FWD BLKHD	ASW	PRES_GAUGE	PUMP #2 DISCHARGE
77.	EDG SPACE GAGE PNL	EDG	PRES_GAUGE	ENGINE OIL PRESSURE
78.	EDG SPACE GAGE PNL	EDG	PRES_GAUGE	FUEL PRESSURE
79.	EDG SPACE GAGE PNL	EDG	TEMP_GAUGE	ENGINE OIL TEMP
80.	EDG SPACE GAGE PNL	EDG	TEMP_GAUGE	JACKET WATER TEMP
81.	EDG SPACE GAGE PNL	EDG	TEMP_GAUGE	MANIFOLD AIR TEMP
82.	EDG SPACE FWD OUTBD	EDG	PRES_GAUGE	FO DUPLEX STRAINER IN
83.	EDG SPACE FWD OUTBD	EDG	PRES_GAUGE	FO DUPLEX STRAINER OUT
84.	AFT AFFF STATION	AFFF	PRES_GAUGE	SYSTEM PRESSURE
85.	AFT AFFF STATION	AFFF	PRES_GAUGE	SYSTEM PRESSURE
86.	AFT AFFF STATION	AFFF	PRES_GAUGE	SYSTEM PRESSURE
87.	AFT AFFF STATION	AFFF	PRES_GAUGE	SYSTEM PRESSURE
88.	AFT AFFF STATION	AFFF	PRES_GAUGE	SYSTEM PRESSURE

ITEM #	LOCATION	SYSTEM	ITEM	USE
89.	AFT AFFF STATION	AFFF	PRES_GAUGE	SYSTEM PRESSURE
90.	AFT AFFF STATION	AFFF	PRES_GAUGE	SYSTEM PRESSURE
91.	AFT AFFF STATION	AFFF	PRES_GAUGE	SYSTEM PRESSURE
92.	AFT AFFF STATION	AFFF	PRES_GAUGE	SYSTEM PRESSURE

ITEM 9: PYROMETERS AND THERMOCOUPLES (CRITICAL) CALIBRATION

MI_50400_FBM_0305_225B_212

1 SCOPE

The intent of this item is for the Contractor to clean, adjust, and calibrate pyrometers and thermocouples listed in the enclosed Figure, List of Pyrometer and Thermocouple (Critical) Gauges.

Government Furnished Property: NONE

2 REFERENCES

Coast Guard Drawings: NONE

Applicable Documents:

Naval Ships' Technical Manual, Chapter 491, 1, Electrical Measuring and Test Instruments, 9/1/1999
Naval Ships' Technical Manual, Chapter 504, 2, Pressure, Temperature and Other Mechanical and
Electrical Measuring Instruments, 12/1/2001

3 REQUIREMENTS

The Contractor shall provide all labor and material to accomplish the following in accordance with the General Requirements:

3.1 **TAG-OUTS** – Isolate, secure, and tag-out, all affected mechanical, piping, and electrical systems in accordance with the General Requirements.

3.2 In the presence of the Coast Guard Inspector, check, clean and calibrate all pressure and thermometer gauges identified in the enclosed Figure "List of Pyrometer and Thermocouple (Critical) Gauges." Disconnect and remove the affected gauges and their associated components/accessories from their respective systems for calibration. Extreme care in handling of components must be exercised to avoid bending or otherwise distorting them. Submit a Condition Found Report (CFR) of those pyrometer and thermocouple gauges that cannot be calibrated. Cutter personnel will assist in locating and identifying all affected gauges listed in the enclosed Figure "List of Pyrometer and Thermocouple (Critical) Gauges." Plug, cap, blank flange or otherwise seal opening in-place of the removed gauges to prevent contamination and maintain system cleanliness. Provide labels to the removed components for identification during reinstallation.

3.2.1 If at all possible, all gauges should be tested in place to minimize disturbance and breakage.

3.3 In the presence of the Coast Guard Inspector, clean, adjust and calibrate the gauges in accordance with NSTM Chapters 491 and 504.

3.3.1 Except for gauges which are not intended to have the gauge face removed, affix a calibration label underneath the gauge glass of each unit denoting the name and location of the calibration facility, the date of calibration, and due date of next calibration to the face of the unit. For gauges not intended to be disassembled, affix calibration label on gauge face. Ensure calibration label does not interfere with gauge reading and is clearly visible. Remove existing /old label(s) prior to attaching the new label.

3.4 Upon completion of shop work (or in-place work) including all required calibration and labeling, remove blank flanges/pipe plugs if any, and reinstall gauges (along with their sending/remote indicating units if they were removed) to their parent locations aboard the ship.

3.4.1 Renew gaskets and seals.

3.4.2 Renew broken or cracked faces (gage glass).

3.5 In the presence of the Coast Guard Inspector, operate affected systems at maximum operating conditions during sea trial to verify proper indication of calibrated gauges and tightness of reinstalled mechanical components. No leaks allowed. Correct any deficiencies found and retest.

3.6 Where existing system piping cleanliness has been lost in localized area or due to contamination (such as metal shavings deposited while removing or installing components), cleanliness can be reestablished by locally swabbing, vacuuming, wiping, etc.

3.7 The Contractor shall submit a copy of the CFR of the findings of the above inspections and tests to the Coast Guard Inspector.

3.8 **CLEARING TAGS** – Restore all affected systems and clear tags in accordance with the General Requirements.

3.9 Restore affected work areas to a clean condition.

3.10 Coordinate all inspections and tests with the Coast Guard Inspector to minimize production delays.

LIST OF PYROMETER AND THERMOCOUPLE (CRITICAL) GAUGES

USCGC HICKORY (WLB 212)

ITEM #	LOCATION	EQUIPMENT	ITEM	USE	QTY
1.	AMR	Thruster Generator	Thermocouple	Oil Temp	2
2.	AMR	Line Shaft Bearing	Thermocouple	Oil Temp	1
3.	Engine Room	Port Main Diesel Engine	Thermocouple	Exhaust Temp	2
4.	Engine Room	Starboard Main Diesel Engine	Thermocouple	Exhaust Temp	2

ITEM 10: FO TANK OVERFLOW CHECK VALVES INSPECT

MI_50600_JAH_0608_225B

1 SCOPE

The intent of this item is to clean and inspect the check valves in the fuel oil vent overflow lines.

Government Furnished Property: None

2 REFERENCES

Coast Guard Drawings:

225B-WLB 506-1, Rev F; Overflows, Air Escapes & Sndg Tubes Diagram

Applicable Documents: None

3 REQUIREMENTS

The Contractor shall provide all labor and material to accomplish the following in accordance with the General Requirements:

3.1 GENERAL

3.1.1 In the presence of the Coast Guard Inspector, inspect and test all equipment and systems that will be disturbed during the performance of this work to document their original condition. Submit a Condition Found Report for all such equipment and systems noting any existing (pre-work) discrepancies in their operation.

3.1.2 Tag-Outs – Secure, isolate, and tag-out all affected mechanical, piping, and electrical systems in accordance with the General Requirements.

3.1.3 Interferences – The Contractor shall remove, modify, or protect all interferences to the work. All interferences that are removed shall be tagged to facilitate proper reinstallation. Ensure that all removed equipment is kept in a clean, dry, protected location. Obtain verification from the Coast Guard Inspector for the protective measures taken for equipment not removed.

3.1.4 Gas Free Certification

3.1.4.1 No hot work is anticipated in this work item. If hot work is required, it will be the subject of a contract modification.

3.2 SPECIFIC INFORMATION

3.2.1 The Fuel Oil Overflow Vent Check Valves are 6 ips flanged bronze valves located in the overflow vent lines for the fuel tanks. The valves are flange mounted in place and may have been installed horizontally or vertically. The bonnets are accessible for removal unless noted otherwise. Additional information is contained in the table below and in CG Dwg 225B-WLB 506-1.

TABLE 3.1 LIST OF FUEL OIL OVERFLOW VENT VALVES

Valve No.	Size	Fuel Tank Served	Mounted Vertical/Horizontal	Bonnet Accessible Y/N	Location
V-V017-7	6 ips	3-48-2-F	Horizontal	Y	2-48-0-E
V-V017-4	6 ips	3-48-0-F	Horizontal	Y	2-48-0-E
V-017-6	6 ips	3-48-1-F	Horizontal	N	2-48-0-E
V-017-3	6 ips	4-30-1-F	Horizontal	N	2-30-0-AA
V-017-5	6 ips	4-17-1-F	Horizontal	N	2-30-0-AA
V-017-2	6 ips	4-30-0-F	Horizontal	Y	2-30-0-AA
V-017-1	6 ips	4-30-2-F	Horizontal	Y	2-30-0AA
V-017-3	6 ips	4-17-4-F	Horizontal	Y	4-12-0-E

3.3 FUEL OIL TANK VENT OVERFLOW CHECK VALVE INSPECTION

3.3.1 With the assistance of ship's force, locate each of the eight (8) fuel tank vent overflow valves. The valve numbers for each tank are shown in Table 3.1 above and further information on the location of each valve may be found in CG Dwg 225B WLB 506-1.

3.3.2 Verify that each of the vent check valves is oriented in the proper direction before preceding with any work.

3.3.3 Perform the work listed below on each of the eight (8) fuel tank vent overflow valves:

3.3.3.1 Disconnect and remove the bonnet on each of the check valves. Clean the bonnet to body seat.

3.3.3.1.1 Drain and collect any residual fuel which may spill from the valve. (Residual fuel may be in the vent line if the valve is mounted vertically.)

3.3.3.2 Remove the valve disc.

3.3.3.3 Clean and inspect the valve seat, disc and the pin.

3.3.3.4 Lap in the valve disc to the valve seat. Wipe out any excess lapping compound after completing the lapping to avoid contaminating the fuel system.

3.3.3.5 Blue the valve disc and valve seat to demonstrate proper contact between the seat and the disc. Ensure there is at least a 1/16 inch contact line around the circumference of the valve. Conduct the blue check in the presence of the Coast Guard Inspector. Verify complete contact around the entire surface of the valve disc and seat.

3.3.3.6 Reassemble the valve. Ensure that the disc swings freely and is not binding. Reinstall the bonnet on the valve. Provide and install a new gasket on the bonnet when reassembling the valve. Use gasketing material described in CG Dwg 225B WLB 506-1. Reuse the existing fasteners.

3.4 ADDITIONAL WORK REQUIRED IF THE VALVE BONNET IS NOT ACCESSIBLE

3.4.1 For valves where the bonnet is not accessible for removal, it will be necessary to disconnect and remove the valve from the vent line. Perform the following additional work on the valve in Table 3.1 where the bonnet is listed as inaccessible.

3.4.1.1 Disconnect the valve from the fuel oil vent overflow system and lower the valve onto the deck. Clean the flange mating surfaces between each end of the valve body and the vent piping.

3.4.1.2 After completion of valve inspections, reinstall the valve in the vent line. Use new gaskets. Gasket material shall be as per CG Dwg 225B WLB 506-1. Reuse the existing fasteners.

3.5 ACCEPTANCE TESTING

3.5.1 Clearing Tags – As needed for testing, restore all affected systems and clear tags in accordance with the General Requirements.

3.5.2 Test Performance – All acceptance tests shall be performed in the presence of the Coast Guard Inspector. Provide a written report to the Coast Guard Inspector of all test results within one week of test completion.

3.5.3 Seat Leakage – Test for seat tightness with valve in closed position with opposite side open for inspection at 100% of valve's rated pressure. Test shall continue for three minutes, if there is no evidence of leakage or, in the event of visible leakage, until accurate determination of leakage can be made. No seat leakage shall be allowed for soft-seated valve. The maximum allowable leakage rate for metal-to-metal seated valve is 10 ml per hour per inch of nominal pipe size.

3.5.3.1 The Seat Leakage test will be satisfied by demonstrating the proper blue contact to the Coast Guard Inspector. It is not required to test the valve using water or operating fluid.

3.6 RESTORATION

3.6.1 Prepare and paint all new and disturbed surfaces in accordance with the General Requirements.

3.6.2 Restore all interferences to their original condition in accordance with the General Requirements.

3.6.3 Clearing Tags – Restore all affected systems and clear any remaining tags in accordance with the General Requirements.

ITEM 11: SHOWER DECK DRAIN REPLACEMENT

EC091_52810_FBM_0507_225B

1 SCOPE

The intent of this item is to replace miscellaneous deck drain fittings serving shower stalls in thirteen (13) Crew's Heads with Government-furnished deck drain fittings. The work involves modification of associated grey water piping (plumbing drain) and installation of new deck covering in way of the shower pan.

Government Furnished Property:

Description	Manufacturer	Part Number	NIIN	Qty	UOI
2" IPS copper-nickel alloy 90-10 Deck Drain with 2" trap	BESTWELD, INC.	BW #DDAV2CN9D2T	-	13	-

2 REFERENCES

Coast Guard Drawings:

225B-WLB 528-1, Rev C, Plumber & Interior Deck Drains
225B-WLB-644-1, Rev C, Sanitary Facilities & Laundry Space Arrgt & Dets

Applicable Documents:

[American Society of Mechanical Engineers \(ASME\) B16.9, Factory-Made Wrought Butt Welding Fittings, 2003](#)

[American Society of Mechanical Engineers \(ASME\) B16.11, Forged Steel Fittings, Socket-Welding and Threaded, 2001](#)

[COMDTINST M10360.3C, Coatings and Colors Manual, C](#)

[MIL-F-1183J SUP 1, Fittings, Pipe, Cast Bronze, Silver-Brazing, General Specifications for, 5/5/1987](#)

[MIL-STD-1627C, Bending of Pipe or Tube for Ship Piping System, 9/30/1994](#)

[MIL-STD-1689A, Fabrication, Welding and Inspection of Ships Structure, 11/23/1990](#)

[MIL-STD-2035A, Nondestructive Testing Acceptance Criteria, 5/15/1995](#)

[MIL-STD-22D NOT 3, Welded Joint Design, 3/21/1991](#)

[MIL-T-16420K\(1\), Tube, Copper-Nickel Alloy, Seamless and Welded \(Copper Alloy Numbers 715 and 706\), 9/16/1988](#)

[MLCPAC Standard Specification 074, Welding and Allied Processes, 3/21/2003](#)

[MLCPAC Standard Specification 085.1, General Requirements for Drawing Preparation, 3/1/2000](#)

NAVSEA Dwg 804-1385781, Pipe Hangers for Surface Ships (Superseding NAVSEA Dwg. 810-1385781), E

NAVSEA Dwg 810-1385880, Fittings, Cu-Ni Alloy, Slip on Sleeve, D

NAVSEA 0900-LP-001-7000, Fabrication and Inspection of Brazed Piping Systems

NAVSEA S9074-AR-GIB-010/278, Requirements for Fabrication Welding & Inspection & Casting Inspection & Repair for Machinery, Piping & Pressure Vessels

NAVSEA T9074-AS-GIB-010/271, Requirements for Non-Destructive Testing Methods, 97

NSTM S9086-RK-STM-010/CH-505R2, Naval Ships' Technical Manual, Chapter 505, Piping Systems, 2

NSTM S9086-T8-STM-010/CH-593R4, Naval Ships' Technical Manual, Chapter 593, Pollution Control

NSTM S9086-VH-STM-010/CH-635R2, Naval Ships' Technical Manual, Chapter 635, Thermal, Fire and Acoustic Insulation, 2

[The Society for Protective Coatings SSPC-SP 3, Power Tool Cleaning](#)
[The Society for Protective Coatings SSPC-SP 11, Power Tool Cleaning to Bare Metal](#)

3 **REQUIREMENTS**

The Contractor shall provide all labor and material to accomplish the following in accordance with the General Requirements:

3.1 **GENERAL**

3.1.1 The concerned work area shall include, but not limited to, TABLE 3.1.A or Crew WR, WC, SH (01-84-2-L), Crew WR, WC, SH (01-88-1-L), Crew WR, WC, SH (1-82-4-L), Crew WR, WC, SH (1-96-1-L), Crew WR, WC, SH (1-98-1-L) >>, Passage (1-82-01-L), Crew SR (1-85-1-L), Auxiliary Machinery Room (4-82-0-E) Upper Level, and Stern Thruster Machinery Room (4-92-0-E). CG Dwgs 225B-WLB 528-1 and 225B-WLB-644-1 are existing drawings that can be used to identify affected components and work areas.

3.1.2

TABLE 3.1.A

ITEM #	AFFECTED HEADS	SPACE BELOW AFFECTED HEADS
1.	XO WR, WC, SH (02-57-2-L)	01-61-2-L
2.	Officer WR, WC, SH (02-66-2-L)	01-66-2-L
3.	Officer WR, WC, SH (02-66-4-L)	1-66-4-L
4.	CPO WR, WC, SH (01-57-4-L)	1-65-2-L
5.	CPO WR, WC, SH, 01-71-2-L	1-71-2-L
6.	Medical Treatment WR, WC (SH, 01-74-1-L)	1-66-0-L
7.	Crew WR, WC, SH (01-84-2-L)	1-84-2-L
8.	Crew WR, WC, SH (1-82-1-L)	4-82-0-E
9.	Crew WR, WC, SH (1-82-3-L)	4-82-0-E
10.	Crew WR, WC, SH (1-82-4-L)	4-82-0-E
11.	Crew WR, WC, SH (1-96-1-L)	4-92-0-E
12.	Crew WR, WC, SH, 1-97-4-L	4-92-0-E
13.	Crew WR, WC, SH, 1-98-1-L	4-92-0-E

NOTE: A verification shipcheck by the Contractor prior to bidding is recommended to determine any possible interferences, arrangement of affected plumbing drain piping, and any other complications that may arise during the performance of this item. CG Dwg 225B-WLB 528-001 is a builder's diagram drawing for plumbing and interior

deck drain installations on WLB 225' Class "B" cutters. CG Dwg 225B-WLB 644-001 is an structural arrangement and detail drawing showing the installation of existing shower stalls. Because these drawings were specifically developed for WLB 225' Class "B" cutters, there may be discrepancies with what is called out as existing on the drawing and what actually exists on the cutter. To the greatest extent possible, any discrepancies determined during specification writing will be addressed accordingly in below requirements.

3.1.3 In the presence of the Coast Guard Inspector, inspect and test all equipment and systems that will be disturbed during the performance of this work to document their original condition. Submit a Condition Found Report for all such equipment and systems noting any existing (pre-work) discrepancies in their operation.

3.1.4 Tag-Outs – Secure, isolate, and tag-out all affected mechanical, piping, and electrical systems in accordance with the General Requirements. Ship's Force will assist in locating all items required to be secured or isolated, and tagged for work under this item.

3.1.5 All fluid that drains from the piping systems shall be cleaned up and removed within 1 hour of draining. Any fluid that drains on the cutter's decks shall be cleaned up and removed immediately. Contractor shall take necessary protective measures including, but not limited to, use of waterproof drop cloths, plastic bags, plugs and caps to prevent contents of sewage or soil drain piping from coming in contact with the cutter.

3.1.6 Interferences – The Contractor shall remove, modify, or protect all interferences to the work. All interferences that are removed shall be tagged to facilitate proper reinstallation. Ensure that all removed equipment is kept in a clean, dry, protected location. Obtain verification from the Coast Guard Inspector for the protective measures taken for equipment not removed.

3.1.7 Gas Free Certification

3.1.7.1 Gas free and certify affected compartments in accordance with the General Requirements. The affected compartments must be certified "Safe for Personnel – Safe for Hotwork" for the duration of work performed under this item.

3.1.7.2 Gas Free Certificates indicating the current status of each compartments shall be posted on the Quarterdeck and at each open access to the compartments. Provide one copy to the Coast Guard Inspector.

3.2 **HOTWORK** – Conduct all hotwork in accordance with MLCPAC Std Spec 074. All welds shall be full-penetration, continuous, 100% efficient welds.

3.2.1 Fabrication, welding, and inspection of piping joints shall be in accordance with NAVSEA S9074-AR-GIB-010, Class P-2. Weld joint design for butt or socket welding per MIL-STD-22.

3.2.2 Brazed piping joints shall be fabricated and inspected per NAVSEA 0900-LP-001-7000, Class P-3b.

3.2.3 Fabrication, welding, and inspection of cutter structures shall be in accordance with MIL-STD-1689.

3.2.4 Ensure that welding does not warp or cause any distortion to adjacent plating.

3.3 SHOWER PAN (FLOOR) AND DECK DRAIN REMOVAL—Using the enclosed Figure, "Shower Pan and Deck Drain Piping Removal" as guidance, remove and discard components as described below in Crew WR, WC, SH (01-84-2-L), Crew WR, WC, SH (01-88-1-L), Crew WR, WC, SH (1-82-4-L), Crew WR, WC, SH (1-96-1-L), Crew WR, WC, SH (1-97-4-L). A crosshatched sections in the Figure denote components required for removal. Cut or grind welds for welded fittings, or unscrew threaded connections from components to facilitate removal. Mark all piping and components including deck drains for removal for verification by the Coast Guard Inspector prior to actual ripout. Discard all permanently removed piping and components.

3.3.1 Crop out and scrap the existing 1/16 " stainless steel shower pan where existing shower drain fitting assembly is secured. Cut along the top of the pan where it meets the base of the shower enclosure base. Scrap pan in accordance with local, state, and federal laws and regulations.

3.3.1.1 Remove and discard the shower drain assembly from its connection to the shower pan and the 2" copper-nickel alloy shower drain piping deck riser.

NOTE: Similar deck drain fitting assembly was inspected on board a WLB 225" Class cutter (USCGC Aspen WLB-208) to find out the manufacturer of existing deck drain fitting assembly. The shower drain assembly consists of a strainer, caulking nut, rubber caulking gasket, shower base, rubber gasket, fiber gasket, and locking nut, and assembled into the deck drain piping riser. Shipboard investigation found the shower drain assembly is manufactured by Oatey 140-NC, Part # 42150.

3.3.2 Remove and discard the 2" copper-nickel alloy drain piping from its deck penetration welds, and terminate piping removal downstream from the P-trap's outlet. Continue shower drain piping removal below deck where affected shower stall is presently mounted. Affected spaces where the 2" copper-nickel alloy shower drain piping are routed in the overhead of Passage (1-82-01-L), Crew SR (1-85-1-L), Auxiliary Machinery Room (4-82-0-E) Upper Level, and Stern Thruster Machinery Room (4-92-0-E). Template piping removal on each shower drain piping to facilitate installation of a Government-furnished deck drain fitting and new cleanout assembly. Piping removal includes the P-trap. Discard removed piping and P-trap.

3.3.3 Remove any standing water. In the presence of the Coast Guard Inspector, inspect deck plating adjacent to the base of the shower stall and surrounding area for corrosion and deterioration. Submit a Condition Found Report to the Coast Guard Inspector to report inspection findings.

3.3.4 Ensure that welding or hot work does not warp or cause any distortion to adjacent plating.

3.4 **SHOWER DECK DRAIN INSTALLATION AND DRAIN PIPING MODIFICATION** – Using the enclosed Figure, "Shower Deck Drain and Deck Covering Installation" as guidance, provide and install all necessary piping and fittings to install Government-furnished deck drain fittings in way of the removed drain piping (deck penetration piping risers) in Crew WR, WC, SH (01-84-2-L), Crew WR, WC, SH (01-88-1-L), Crew WR, WC, SH (1-82-4-L), Crew WR, WC, SH (1-96-1-L), Crew WR, WC, SH (1-97-4-L) as described below. Provide all necessary materials except the Government-furnished material (part #1 in Figure, "Shower Deck Drain and Deck Covering Installation") to facilitate installation and modification. Horizontal piping runs shall have a minimum pitch of 1/8 inch per foot toward the direction of flow to achieve gravity drainage. Allow the Coast Guard Inspector to verify any proposed pipe runs prior to actual installation. Unless, otherwise specified in the specification, all materials shall be in accordance with Coast Guard Dwg 225B-WLB 528-001. For descriptive purposes piece number (P/N #) in parentheses are the same piece number called-out in enclosed Figure, "Shower Deck Drain and Deck Covering Installation."

3.4.1 Enlarge the hole opening where the 2" IPS copper-nickel alloy drain deck riser was removed to fit a Government-furnished deck drain fitting. The Government-furnished deck drain fitting as described in enclosed Figure, "Shower Deck Drain and Deck Covering Installation" is a copper-nickel alloy 90-10 body with 2" trap, copper-nickel alloy baffle, bronze strainer, and monel screws in accordance with NAVSEA Dwgs 802-6337411 or 803-1385789, Type D with 2" trap/seal, manufactured by Bestwelds, Inc. Part # DDAV2CN9D2T, Dwg.# BWDD/LPD #101, Rev.A, sheet 17 of 45.

3.4.2 Install a 2" IPS bronze single sweep tee (P/N#4) from the deck drain's outlet connection. Install and route a new 2" IPS copper-nickel alloy piping (P/N#2) from the tee run connection and connect it to the end of 2" shower drain removal in above paragraph 3.3. Install necessary fittings such as 45° or long turn 90° bronze elbows when there is an elevation change to obtain a proper slope. Repipe the deck drain outlet to the existing drain utilizing the least amount of piping (piping runs shall be short and direct). When and where necessary, install a short piece of 2" IPS copper-nickel alloy piping (as deck drain outlet extension) between the 2" single sweep bronze tee (P/N#4) and deck drain outlet fitted with a coupling to obtain proper alignment between new (P/N#2) and existing 2" copper-nickel alloy shower drain piping. The other advantage of extending the deck drain outlet is to minimize installation

of 45° or 90° elbows or pipe bends where there is an excessive elevation difference between the deck drain outlet and the end of 2" shower deck drain removal.

3.4.2.1 Install a cleanout fitting assembly from the other end of the single sweep tee. Fabricate cleanout with adapter/nipple and threaded cap/plug.

3.4.3 New piping shall be Cu-Ni alloy 90-10, seamless, annealed, Grade 1, Class 200 in accordance with MIL-T-16420.

3.4.4 All silver-brazed bronze fittings shall be per MIL-F-1183, Type A, with brazing rings. Alternate for bronze silver-brazed fittings are-weld ends Cu-Ni alloy 90-10 or 70-30 fittings in accordance with NAVSEA Std Dwg 810-1385880 or ASME 16.11 or 16.9. Known complying products for Cu-Ni alloy welded fittings are Alaskan Copper and Brass Co., CUNICO, and Lee Brass (formerly Flagg-Flow Fittings).

3.4.5 Nipple shall be monel material, threaded one end.

3.4.6 Clean-out assembly shall be fitted with a Cu-Ni Alloy adapter or a threaded one-end Nickel-copper (monel) nipple to accept a threaded bronze plug or cap.

3.4.7 Pipe bends shall be in accordance with MIL-STD-1627. Minimum pipe bend radius shall be five (5) times nominal pipe diameter.

3.4.8 Fabricate and install pipe hangers and supports in accordance with NAVSEA Dwg 804-1385781.

3.5 Template all associated work to suit existing condition aboard the cutter.

3.6 The Contractor and coast guard inspector shall visually inspect the installations.

3.7 WELDING EXAMINATIONS – The Contractor shall perform the following weld examinations:

3.7.1 In the presence of the Coast Guard Inspector, visually inspect and conduct a magnetic particle (MT) or dye penetrant (PT) weld inspection watertight deck penetration welds in accordance with NAVSEA T9074-AS-GIB-010/271 and MIL-STD-1689. The Coast Guard Inspector and the Contractor shall jointly determine whether a MT or PT test shall be used. Test acceptance standards shall be to Class III criteria in accordance with MIL-STD-2035(SH). Repair all weld deficiencies and retest.

3.7.2 Provide a written report of nondestructive test findings to the Coast Guard Inspector.

3.8 Cleaning and flushing of newly installed and affected piping system shall be in accordance with NSTM Chapter 505. All newly installed and affected piping shall be reasonably free of contamination and any remaining residue on the surface does not interfere with system operations or damage system components. Dispose of flushing fluid in accordance with all applicable federal, state and local laws and regulations. Do not drain any fluids into any space, bilge or exterior location.

3.9 HYDROSTATIC TESTING – In the presence of the Coast Guard Inspector, hydrostatically test the newly installed and affected plumbing drain piping by filling the system with clean fresh water to the point of overflow, and with the outlet tightly closed (except the highest opening). Hold test pressure for a minimum of 30 minutes prior to inspection of the first joint. Inspect for leaks and weeps. No external leakage or permanent deformation is allowed. Repair and retest all leaks. Drain test medium after satisfactory completion of hydro test. An alternative for hydrostatic testing is to perform NDT of all brazed or welded piping joints in accordance with paragraph 3.10.

3.9.1 In the presence of the Coast Guard Inspector, perform a liquid film bubble emission leak test along the entire length of the deck drain weld seams.

3.10 OPERATIONAL TESTING – In the presence of the Coast Guard Inspector, conduct an operational test of the newly installed and modified plumbing drain normal operating system pressure to verify tightness. Repair all leaks on disturbed connections.

3.10.1 Coast Guard personnel will operate machinery for the operational test.

3.10.2 During the operational test, verify tightness of all mechanical joints and proper operation of the newly installed components.

3.11 SHOWER ENCLOSURE SURFACE PREPARATION AND PAINTING

3.11.1 Prepare shower enclosure surrounding areas in accordance with SSPC-SP 11. Feather the surrounding surfaces to obtain a 3 inch wide smoothly tapered boundary from the existing paint to the prepared surface.

3.11.2 Prior to application of any coatings, remove all dust, grease, oil and other contaminants from the prepared surfaces. Surfaces shall be inspected by the Coast Guard Inspector prior to the application of any coatings.

3.11.3 Upon acceptance of the surface preparation by the Coast Guard Inspector, prime and coat the prepared surfaces in accordance with the applicable sections in COMDTINST M10360.3.

3.12 SHOWER DECK COVERING INSTALLATION/APPLICATION

NOTE: The new deck covering (new shower stall floor) will be raised at the edges, rising above the bottom of the existing shower walls, preventing water to seep in between the seam of the floor and wall.

3.12.1 Install a new Type III, Cosmetic Polymeric Epoxy Resin (MIL-D-24613) One-step flooring with colored quartz aggregate flooring system in way of the shower deck drain installation. Deck covering shall be in accordance with MLCPAC Std Spec 634, paragraphs A, B, and Table 634-1, Authorized Covering Material.

3.12.2 Install deck covering from the deck up to the stall overhang to create an effective seal.

3.12.3 The Contractor shall grade the shower flooring system such that the shower deck slopes toward the shower deck drain. See the enclosed Figure, "Shower Deck Drain and Deck Covering Installation", Detail C.

3.13 COMPARTMENT RESTORATION – Upon completion of successful non-destructive testing, prepare disturbed surfaces other than shower stall floor in accordance with SSPC-SP 3.

3.13.1 Feather the surrounding surfaces to obtain a 3-inch wide, smoothly tapered boundary from the existing paint to the prepared surface.

3.13.2 Prepared areas are to be inspected and verified by the Coast Guard Inspector prior to application of any coating.

3.14 SURFACE COATING – Coat prepared surfaces other than shower stall floor to match surrounding surfaces in accordance with the applicable tables of COMDTINST M10360.3. The Contractor shall ensure that all prepared surfaces are dry and free of dirt, dust, grease, grit, or other contaminants.

3.14.1 Upon verification from the Coast Guard Inspector on all surface preparation, prime and coat the disturbed and prepared surfaces in accordance with COMDTINST M10360.3. For surfaces to be covered with insulation, apply primer coats only.

3.14.2 Coat all new and disturbed piping systems in accordance with COMDTINST M10360.3.

3.15 In the presence of the Coast Guard Inspector, clear all tags in accordance with the General Requirements. Restore all affected equipment and system to normal operating condition.

3.15.1 In the presence of the Coast Guard Inspector, test associated systems at completion of work to ensure proper restoration of equipment.

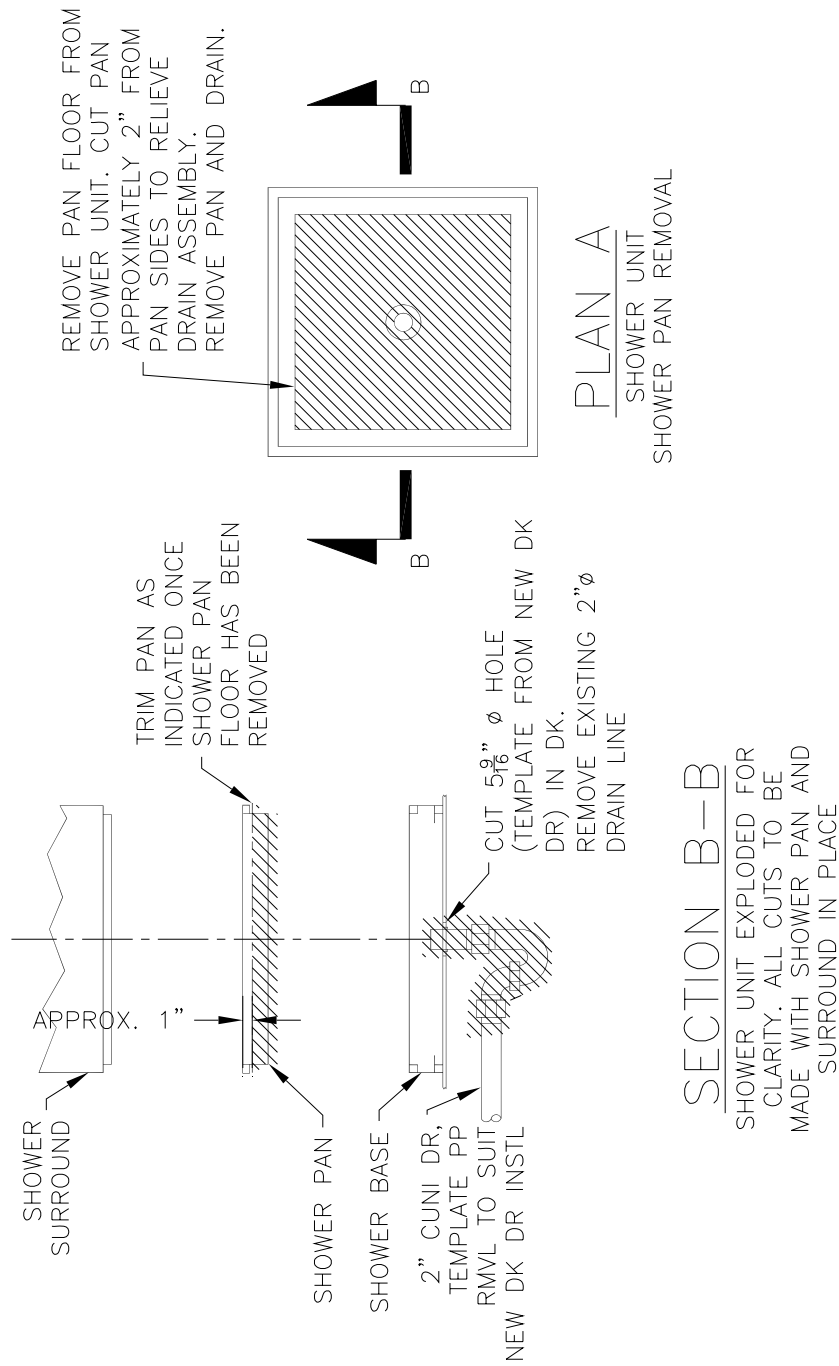
3.16 Restore all interferences.

3.17 Restore affected work areas to a clean condition.

3.18 Upon completion, submit two marked-up (with erasable red pencil) blueline prints of affected Coast Guard Drawings to reflect the installation and modification of the piping systems in accordance with MLCPAC Std Spec 085.

3.19 Coordinate all inspections with the designated Coast Guard Inspector to minimize production delays.

3.20 Enclosed Figures.



SHOWER PAN AND DECK DRAIN RMVL

FIGURE – SHOWER PAN AND DECK DRAIN
PIPING REMOVAL

MATERIALS LIST			
P/N	QTY	UNIT	DESCRIPTION
1	1	EA	2" CUNI 90-10 DECK DRAIN W/2" TRAP, BRONZE STR, CUNI BAFFLE, MONEL FASTENERS IAW NAVSEA DWG 802-6337411, TYPE D EQ TO BESTWELD #DDAV2CN9D2T
2	AS REQD	LF	TUBING, CL 200 90-10 CUNI, 2" IPS, 2.375" OD, 0.083" WT
3	AS REQD	CUFT	TYPE III, COSMETIC POLYMERIC EPOXY RESIN, ONE-STEP FLOORING W/ COLORED QUARTZ AGGREGATE
4	1	EA	2" IPS SINGLE SWEEP TEE, BRZ
5	1	EA	2" IPS CAP, BRZ, THD
6	1	EA	2" IPS NIPPLE, NCA, 3" LONG, TOE
7	1	EA	2" IPS COUPLING, BRZ
			MATERIAL
			CUNI 90-10
			MIL-T-16420
			MIL-D-24613
			MIL-F-1183
			FLAG FLOW 4145-400
			FAB FROM MIL-T-1368, CLASS B
			MIL-F-1183

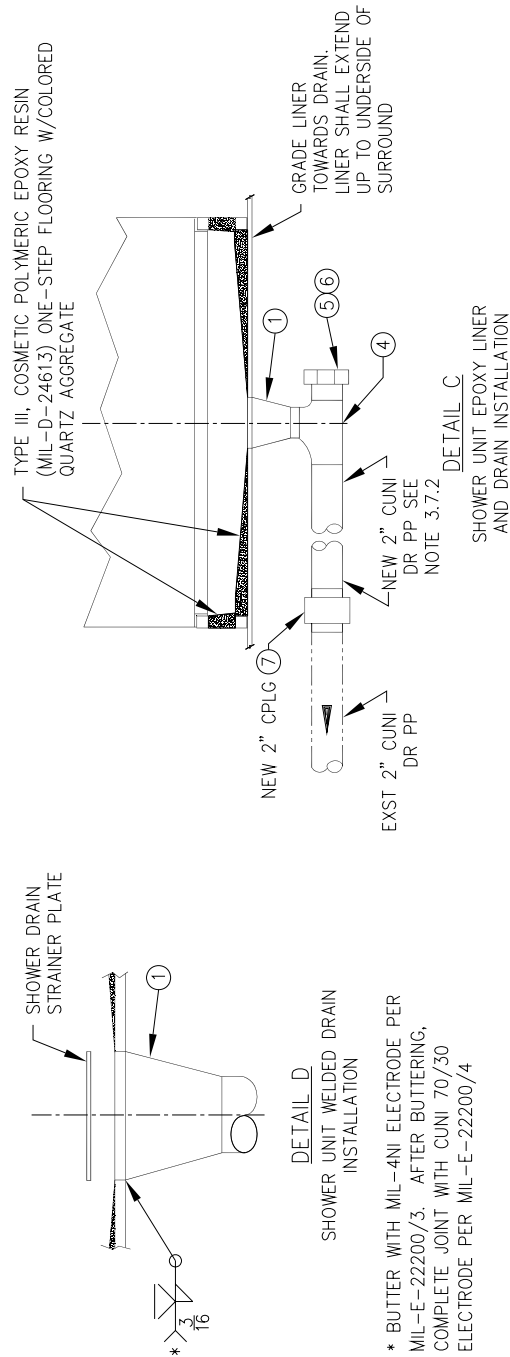


FIGURE – SHOWER DK DR AND DK COVERING
INSTALLATION

ITEM 12: STEERING SYSTEM RELIEF VALVES RENEW

MI_56100_CKN_0608_WLB_212

1 SCOPE

The intent of this item is to remove and renew the existing steering system relief valve. The Contractor shall provide a new valve in kind. The Contractor shall clean, inspect, set lifting pressure, shop test, label, and reinstall the new steering system relief valve.

Government Furnished Property: NONE

2 REFERENCES

Coast Guard Drawings:

225B-WLB 561-1, Rev B; Steering Gear Hydraulics Diagram
225B-WLB 561-3, Rev A; Steering Gear Arrangement
225B-WLB 562-1, Rev D; Steering Components Arrangement and Detail

Applicable Documents:

CG Tech Pub 3555, 5/21/1996; Steering Gear Systems
Naval Ships' Technical Manual, Chapter 505, Piping Systems, 12/1/2001

3 REQUIREMENTS

The Contractor shall provide all labor and material to accomplish the following in accordance with the General Requirements:

3.1 TAG-OUT – Isolate, secure, and tag-out all affected mechanical, piping, and electrical systems in accordance with the General Requirements.

CAUTION

Isolation valves shall be closed, locked with wire, and tagged "DO NOT OPEN." Ensure all pressure is relieved prior to removing the relief valves.

3.2 RELIEF VALVES TO BE RENEWED, SET, AND TESTED

3.2.1 The below table lists the relief valves to be renewed:

SERVICE DESCRIPTION	QTY	SIZE (inches)	LOCATION	RELIEF PSIG
Steering Relief Valve	2	1" Parker	Steering Room	1500

3.3 VALVE REMOVAL

3.3.1 Identify and tag the valve removed with location, service and system working and relief pressure. Coast Guard Inspector will assist in locating valves. CG Dwgs 225B-WLB 561 and 225B-WLB 562 may be consulted for the location and arrangement of this steering system.

3.3.2 Remove the valve in accordance with NSTM, Chapters 505. Install clean blank flanges with gaskets over the pipe openings, securing with at least four bolts, 90 degrees apart. Clean pipe plugs or other closures may be used.

3.4 VALVE RENEWAL

3.4.1 Renew the valve listed in the Relief Valve Table. The new valve shall have liquid relieving capacities equal to or greater than the existing valve. Its size, type, and material shall be the same as the existing valve.

3.4.2 Clean, chase, and tap the valve and piping threads and exposed threaded areas, as necessary.

3.4.3 Dress and true gasket mating surfaces.

3.5 VALVE TESTING

3.5.1 In the presence of Coast Guard Inspector, shop test and set each relief valve to the correct lifting pressure. Using clean hydraulic oil as a test medium, simulate system temperature and pressure, and bring the test pressure to 10 psig below the relief valve operating pressure. Slowly raise the test pressure to the set relief pressure and record the pressure where the valve provides relief. Additional information about relief valve testing can be found in NSTM Chapter 505, CG Tech Pub 3555.

NOTE: During testing and relief valve setting, do not allow the test pressure to exceed the relief valve set point by more than 10 psig for longer than a few seconds.

3.5.2 Reset and retest the valve if the valve does not function properly.

3.5.3 Submit a CFR if the relief valve requires major repairs or renewal.

3.5.4 Affix a metal tag (brass plate) using lock wire to each valve indicating the following information:

- a. Ship name and hull number.
- b. Valve number or identification.
- c. Valve lifting pressure.
- d. Valve operating pressure.
- e. Date valve tested and set.
- f. Name and location of repair facility (Contractor).

3.5.5 Provide the Coast Guard Inspector with CFR documenting the test pressures and relief pressure (lifting pressure).

3.6 VALVE INSTALLATION

3.6.1 Upon completion of shop work, remove blank flanges, pipe plugs, etc. and clean, dress, and true gasket mating surfaces. Install each relief valve in its correct location aboard the ship in accordance with NSTM, Chapters 505, in the presence of the Coast Guard Inspector. Renew gaskets and seals, in kind.

3.6.2 Dispose of all fluids used in the disinfecting process in accordance with federal, state, and local regulations.

3.6.3 Remove lock wires and tags, open isolation valves, and inspect each relief valve for leaks with the affected system at normal operating pressure and temperature to verify tightness. No leaks allowed. Correct any deficiencies found and retest. The Contractor is responsible for correcting any leaks discovered in the disturbed areas.

3.7 CLEARING TAGS – Restore all affected systems and clear tags in accordance with the General Requirements.

3.8 Coordinate all inspections and testing with the Coast Guard Inspector to minimize production delays.

ITEM 13: BUOY AND CARGO HANDLING CRANE WIRE ROPE RENEWAL

MI_58900_AK_0505_225B

1 SCOPE

The intent of this item is to renew both whip and main wire rope and test the Appleton EB-480-60-40 crane.

Government Furnished Property:

Description	Manufacturer	Part Number	NIIN	Qty	UOI
Watre Bag				1	ea

2 REFERENCES

Coast Guard Drawings: NONE

Applicable Documents:

CG Tech Pub 3557, 1/7/1997; Manufacturer's Instruction Book-SWBS Group(s) 568-573
[COMDTINST M9000.6, Rev E; Naval Engineering Manual \(NEM\)](#)
[MIL-G-18458, Rev B, Amd 5; Grease, Wire Rope and Exposed Gear](#)
[Naval Ship's Technical Manual \(NSTM\) Chapter 613, Wire and Fiber Rope and Rigging, Rev 3](#)

3 REQUIREMENTS

The Contractor shall provide all labor and material to accomplish the following in accordance with the General Requirements:

3.1 GENERAL

3.1.1 The Contractor shall provide, pressure lubricate, and install both whip and main wire rope. Test and inspection the buoy and cargo Crane, Model Appleton EB-480-60-40. The Appleton Technical Representative shall be present for testing and calibrating crane's components.

3.2 WIRE ROPE REMOVAL

3.2.1 Remove all wire rope from the crane. Discard the removed wire rope as scrap in accordance with all local, state, federal laws and regulations.

3.3 TAG-OUT

3.3.1 Isolate, secure, and tag-out all affected mechanical, piping and electrical systems in accordance with the General Requirements. Ensure that hydraulic pressure is relieved.

3.3.2 Renew the wire rope and rope fittings. Contractor shall provide and install wire rope and fittings. The wire rope shall be mechanically lubricated, and the lubricant shall be "Dynalube Blue." The manufacturer's certifications shall be provided for each new wire rope. Provide the CG Inspector with certification of the wire rope breaking strength. Prior to returning equipment to use, remove excess grease from wire rope:

Item Description	Part No./Diameter	Qty
Whip Wire Rope	3/4", 6x37, EIPS, IWRC, RRL, breaking strength 58,800 lbs	200 ft
Main Wire Rope	1", 18x 19 DY18 HPTP<< 1.0" diameter DYFORM 18, breaking strength 115,000 lbs per TP >>	300 ft

3.3.3 Install all wire rope in the presence of the CG Inspector. The Contractor shall install the wire rope in such a manner that there is no possibility of twists occurring in the wire rope. Rope shall be installed in accordance with CG Tech Pub 3557 and NSTM Chapter 613. The wire rope shall be under 2,000 lbs constant load during installation on the winch. The Contractor shall provide all wire rope information (type, length, size, etc.) to the CG inspector following installation.

3.3.4 Provide and install new wire rope fittings in accordance with CG Tech Pub 3557 and NSTM Chapter 613. Contractor shall renew open spelter socket on the crane's wire rope in accordance with NSTM Chapter 613. Reinstall all wire rope components in accordance with CG Tech Pub 3557.

3.4 CLEARING TAGS

3.4.1 Restore all systems and clear tags in accordance with the General Requirements.

3.5 PRETEST INSPECTION AND ADJUSTMENT

3.5.1 The Contractor shall check and adjust connections and securing devices on the Crane in accordance with CG Tech Pub 3557.

3.5.2 Prior to testing, check the following:

3.5.2.1 Check for proper alignment of boom in the turret.

3.5.2.2 Ensure that all cylinders pins are properly aligned and secured.

3.5.2.3 Ensure that all bearings and bushings are greased.

3.5.2.4 Check oil level in the swing gear reducers, swing brakes, auxiliary line and load winches.

3.5.2.5 Ensure that all fittings are tight.

3.5.2.6 Slew angle indicator

3.5.2.7 Boom extension indicator

3.5.2.8 Boom angle indicator

3.5.2.9 Load cell for the winch

3.5.2.10 Ensure that area is clear for an operational test.

NOTE: The Contractor shall test the crane. The CG will operate the crane.

3.5.3 The Contractor shall operate the winch from the cab. Operational test should include the following: crane boom extension cylinder, crane boom luffing cylinder, complete slewing motor tests, operated for 15 minutes in each direction, winches operated for 15 minutes each direction, all controls operating from each booth with no operational test conducted prior to the lower booth operating, and operating the crane from the emergency control toggle switches.

3.6 TEST AND INSPECT CRANE

3.6.1 In the presence of the Coast Guard Inspector and the Technical Representative, the Contractor shall perform crane test to demonstrate that all equipment, components, and systems are working properly in accordance with the manufacturer. The Contractor shall perform all tests that are listed, in accordance with enclosed Figure “225B WLB CRANE TEST.”

3.6.2 The Contractor shall provide certified weights/water bag for testing. If a water bag is used for testing, dump the water in accordance with all federal, state, and local laws and regulations.

3.6.3 Safety Precautions for testing weight handling equipment shall be in accordance with NSTM Chapter 589.

3.6.4 The following safety precautions shall be observed when conducting weight handling equipment tests:

3.6.5 The specified test loads are designed to provide for the effects of wave action, accelerations, and impacts under service conditions. Therefore, conditions that would cause sudden applications of test loads should be avoided.

3.6.6 Do not rotate the boom with the test loads at boom topping angles greater than allowed.

3.6.7 The Contractor shall obtain CG Inspector verification prior to loading test weight.

3.6.8 Place dunnage under test loads and keep test loads as close to the deck as possible to preclude excessive damage in the event the load should drop due to failure of the equipment or improperly adjusted brakes.

3.6.9 The test loads specified are intended to be within the limits that can safely be handled considering the cutter’s stability characteristics.

3.6.10 Check and record the hydraulic oil pressure for all tests and submit a CFR.

3.6.11 The test weights required are outlined in NSTM, Chapter 589. Test weights shall have hoisting eyes and be rigged with preventers to avoid damage to the cutter or injury to personnel in the event of a malfunction.

3.6.12 All tests shall be in the presence of the deck safety supervisor.

3.6.13 Safety precautions for testing weight handling equipment shall be in accordance with NSTM Chapter 589.

3.6.14 Contractor shall obtain CG Inspector’s verification prior to loading certified test weights/water bag.

3.6.15 CG Inspector will monitor all tests conducted to verify the proper operation of weight handling equipment.

3.7 NO-LOAD TESTING

3.7.1 The Contractor shall perform no-load test in accordance with enclosed Figure “225B WLB CRANE TEST.” The ship’s personnel will operate cutter equipment. The purpose of this test is to verify operation of the crane. The ship’s personnel will operate cutter equipment. Submit a CFR documenting the testing results.

3.7.2 With no load on the crane, luff boom from minimum angle to maximum angle (full height) and return. Extend boom to maximum extension, retract to minimum extension. Slew crane from positive stop to positive stop. Lower and raise hook until two block alarm sounds. Observe and verify accessibility of the emergency brake release controls. Verify proper stowage for the boom. The ship's personnel will operate cutter equipment. Submit a CFR

3.7.3 Conduct the following tests in accordance with enclosed Figure "225B WLB CRANE TEST." Interlock, angle and radius interlocks, and emergency swing. Test the brake release and hand brake lowering. Ship's personnel will operate the cutter equipment. Submit a CFR documenting the test results.

3.7.4 Automatic Interference Checkout – The purpose of this test is to demonstrate pre-programmed interlocks to prevent crane boom from making contact with pilothouse.

3.7.5 Emergency Swing Brake Release Test – The purpose of this test is to check the operational characteristics of the manual release of the swing brakes.

3.7.6 Emergency Winch Brake Release Test – The purpose of this test is to demonstrate the ability of the emergency lowering system.

3.8 LOAD TEST

3.8.1 Conduct crane load tests in accordance with enclosed Figure "225B WLB CRANE TEST." All weights shall be supplied by the Contractor and verified by the Coast Guard Inspector. Weights shall be measured using a calibrated load cell. Execute tests while the cutter is waterborne. Dunnage shall be provided by the Contractor to protect deck surfaces from damage by test weights.

3.9 STATIC TEST

3.9.1 The Contractor shall perform main and auxiliary static tests. Upon completion of the static test, inspect the crane and all components to determine any apparent weakness in the fittings, components, and foundation bolts, and to determine whether or not all parts appear to be in normal condition.

3.9.2 Check for oil leaks and proper operation of the hydraulic system. Do not lifet static weight.

3.10 DYNAMIC TEST

3.10.1 The Contractor shall perform main and auxiliary dynamic tests. The ship's personnel will operate cutter equipment.

3.10.2 The purpose of this test is to verify the winches ability to slew, luff, hoist, lower, extend, and retract the load from "inching" through maximum speed settings. In addition, it is to demonstrate the two-block limit switch overload alarm operation.

3.10.3 Undue Strain – Examine the following components during each test load application for signs of undue strain (1) boom hinge, (2) hydraulic ram attachments to boom, (3) running rigging, (4) blocks, (5) links, and (6) foundations.

3.10.4 Moving parts – Observe the following to ensure the proper functioning of moving parts (1) the winch's ability to start, lift, stop, and lower test loads, (2) the running rigging's operation, (3) boom hinge and hydraulic rams, and (4) the adequacy of lubrication.

3.11 RATED TEST

3.11.1 The purpose of this test is to verify the main and auxiliary winches ability to slew, luff, hoist, lower, extend, and retract the load from inching through maximum speed settings. The crane shall be required to meet all speed ratings at these loads.

3.12 CRANE CONTROL AND MONITOR SYSTEM

3.12.1 The purpose of this test is to verify proper operation of the Crane Monitoring System.

3.13 CONSTANT TENSION WINCH FUNCTION

3.13.1 The purpose of this test is to test the function of the constant tension feature.

3.14 POST TEST INSPECTION

3.14.1 During and following each test, perform an inspection in the presence of the Coast Guard Inspector to ensure that no parts have been unduly strained causing permanent deformation of structure/parts. Any defects found shall be corrected before testing continues. The following are typical things to look for but the list is representative, not comprehensive:

3.14.1.1 Elongated, deformed, or cracked shackles

3.14.1.2 Loss in strength due to corrosion or deterioration

3.14.1.3 Elongated, frayed, or worn wire rope

3.14.1.4 Loosening of wire rope fittings or rope slippage in sockets and fittings

3.14.1.5 Absence of lubrication on cables, rollers, and sheaves

3.14.1.6 High strands, bird caging, or kinks in wire rope

3.14.1.7 Structural binding, warping, cracking, permanent deformation, or component malfunction

3.14.1.8 Brake overheating and proper stoppage

3.14.1.9 Abnormal machinery noise, vibration, or overheating

3.14.1.10 Gear damage, inadequate lubrication, or abnormal wear patterns

3.14.1.11 Hydraulic system leaks, overheating, vibration, valve slamming, or proper cylinder stroke

3.14.1.12 Hoist train abnormal noise or vibration

3.14.2 Upon completion of the inspection of the crane and its components, submit a CFR for the crane containing findings and test results. Each final CFR shall document the initial condition found, provide a record of all recorded measurements, and document any resulting maintenance or repairs completed during the execution of this work item.

3.14.3 After load testing of weight handling equipment, make a visual inspection on all load bearing parts, strength welds and any repaired areas. If any cracking or deformation is sighted, or suspect, remove paint from the suspect area, and have a NDT inspector perform a magnetic particle test in accordance with NAVSEA T9074-AS-GIB-010/271 and MIL-STD-2035.

3.15 Any defects noted on pre-test inspections, test, or post-test inspections may be the subject of a contract change.

3.16 LABEL PLATES

3.16.1 Reinstall label plates on the boom, in the area designated by the CG Inspector. Attach a new brass plate, stating the working load in pounds with the corresponding number of parts in the purchase and date tested.

3.16.2 The label plate showing the Rated Working Load, Static Test Load, Place and Date of Test. The Coast Guard Inspector will designate the location for this plate.

3.17 RESTORATION

3.17.1 Restore all affected mechanical and electrical equipment to normal operating condition. In company with the Contractor, the Coast Guard Inspector shall inspect and test all interferences affected by this item to verify proper operation. The Contractor shall submit a final CFR report documenting the completion of the installation.

3.18 The Contractor shall restore all work areas to a clean condition, disposing of all removed material in accordance with all applicable local, state, and federal requirements.

3.18.1 The Contractor shall remove all test equipment and materials upon completing the weight test.

3.19 COORDINATION

3.19.1 Coordinate all tests and inspections with the Coast Guard Inspector to minimize production delays.

225B WLB CRANE TEST

Required Test Weights/Water Bag	Pounds
Main Hoist Static Load Test Weight	60,000 pounds
Main Hoist Dynamic Load Test Weight	44,000 pounds
Main Hoist Rate Load Test Weight	30,000 pounds
Auxiliary Hoist Static Load Test Weight	15,000 pounds
Auxiliary Hoist Dynamic Load Test Weight	12,500 pounds
Auxiliary Hoist Rate Load Test Weight	10,000 pounds

NOTE: Auxiliary/Auxfall and Fastline/Whip are synonym

Emergency Brake Release Test Weight	5,000 pounds
90% load	(36,000 lbs main/9,000 lbs Aux)
105% load	(42,000lbs main/10,500 lbs aux)

NO LOAD OPERATION TEST:

Purpose: The purpose of this test is to verify operation of the crane.

Before starting, ensure that Pump compensator #1 is set to 2550 psi and pump compensator #2 is set to 2450 psi. Set crane relief valve to 2750 psi. Adjust compensators so hydraulic pressure at crane cab is 2400 psi.

With no load on crane luff boom from -10 degrees to full height and return. Extend boom to maximum extension, retract to minimum extension. Slew crane from positive stop to positive stop. Lower and raise both hooks until two block alarm sounds. The crane shall meet the following Speeds in both directions either right/left, extend/retract, raise/lower as applicable. It must be demonstrated that the crane can complete any two of the below operations simultaneously at max rated speed for both.

Hoist Speed main	40 ft/min
Hoist Speed aux	60 ft/min
Boom Luff Speed	1.0 degree/sec
Swing Speed	1.0 RPM
Telescoping Speed	30 Ft/min

AUTOMATIC INTERFERENCE CHECKOUT:

Purpose: The purpose of this test is to demonstrate pre-programmed interlocks to prevent crane boom from making contact with pilothouse.

With no load on the crane position boom parallel to ship's centerline at a luff angle of 0 degrees. Extend boom slowly toward face of pilothouse. Verify audible alarm at approximately 6 ft from pilothouse. Verify automatic shutdown of crane at approximately 4 ft distance from pilothouse.

With no load on the crane position boom over the water at a luff angle of 0 degrees. Extend boom out to full extension. Slew boom slowly toward centerline and towards side of the pilothouse. Verify audible alarm and automatic shutdown of crane before you hit the pilothouse.

NO LOAD WINCH TEST:

Purpose: The purpose of this test is to verify that the winches are operating properly.

With no wire on the drum move the load line control handle to the maximum hoist position. Hold for 30 minutes. At completion repeat with handle in the maximum lower position. Look for vibration, heat unusual noise. If wire is on the drum move handle back and forth from maximum load to maximum lowering for 60 minutes.

STATIC LOAD TEST:

Purpose: The purpose of this test is to verify that the buoy crane main line winch can withstand a static load of 60,000 lbs and the auxiliary winch can withstand a static load of 15,000 lbs with no permanent deformation.

Suspend 60,000 lbs from main hook with the boom fully extended (60 ft). The load shall be held for 10 minutes with no permanent distortion to any load bearing components. Repeat the test for auxiliary winch using 15,000 lbs.

NOTE: The crane shall not be required to lift this load. It shall be applied utilizing another crane.

DYNAMIC LOAD TEST:

Purpose: The purpose of this test is to verify the main line and auxiliary winch ability to slew, luff, hoist, lower, extend, and retract a load of 44,000 lbs main winch and 12,500 lbs auxiliary winch from inching through maximum speed settings.

Attach a load of 44,000 lbs to main line winch hook. Fully extend and retract the boom. Luff boom to its maximum angle and return. Hoist load and lower. Slew crane Port deck edge to Stbd deck edge. All operations are to be done while actuating from inching to maximum speed settings. Repeat the hoist and lower portion of the test using 12,500 lbs on auxiliary winch.

NOTE: The overload alarm should activate and be overridden by operator.

RATED LOAD TEST:

Purpose: The purpose of this test is to verify the main line winches ability to slew, luff, hoist, lower, extend, and retract a load of 30,000 lbs from inching through maximum speed settings. The auxiliary winch shall be able to hoist and lower a load of 10,000 lbs. The crane shall be required to meet all speed ratings at these loads.

Attach a load of 30,000 lbs to main line winch hook. Fully extend and retract the boom. Luff boom to its maximum angle and return. Hoist load until two block activates and lower. Slew crane from limit to limit. Verify limit switch operation. Attach 10,000 lbs to the auxiliary winch and hoist load until two block activates and lower. All operations are to be done while actuating from inching to maximum speed settings. Procedure is to be repeated 5 times. During the main winch test the crane shall meet the listed speeds in both directions either right/left, extend/retract, raise/lower as applicable. For the auxiliary winch test, it is not required to repeat the booming, swinging and telescoping portions. It must be demonstrated that the crane can complete any two of the below operations simultaneously at max rated speed for both.

Hoist Speed main	40 ft/min
------------------	-----------

Hoist Speed aux	60 ft/min
Boom Luff Speed	1.0 degree/sec
Swing Speed	1.0 RPM
Telescoping Speed	30 Ft/min

EMERGENCY SWING BRAKE RELEASE TEST:

Purpose: The purpose of this test is to check the operational characteristics of the manual release of the swing brakes.

Locate the boom horizontally and extend over the buoy deck chain stopper. Apply a load of 10,000 lbs perpendicular to the crane/boom centerline. This is most easily done connecting to a pad eye in the deck and utilizing a power pack with a dyno in line. Use the emergency swing brake release system to release the swing brakes. The brake release pressure should be 1000 PSI. Adjust system in accordance with tech pub and repeat test until 1000-PSI release pressure is obtained and duplicated.

EMERGENCY WINCH BRAKE RELEASE TEST:

Purpose: The purpose of this test is to demonstrate the ability of the emergency lowering system.

Locate the crane boom over the side of the ship. Using the main line Lift a 5000 lb load approximately 5' off the ground. By using the emergency release system lower the weight to the ground.

CRANE CONTROL AND MONITOR SYSTEM

Purpose: The purpose of this test is to verify proper operation of the Crane Monitoring System

Verify that with a display color is yellow.

Verify that with a 90% load (36,000 lbs main/9,000 lbs Aux) the display color is yellow.

Verify that at 105% load (42,000lbs main/10,500 lbs aux) the display color is red, the crane should be inhibited from raising the weight and an audible alarm will sound. Lowering should be unaffected.

NOTE: IF THE CRANE IS OPERATING IN THE HIGH SWING MODE MAX LOAD DECREASES TO 30,000 lbs. IF THIS WEIGHT IS EXCEEDED FOR MORE THAN 10 SECONDS THE CRANE WILL ALARM AND STALL.

Verify the following position displays.

Luff cylinders fully retracted	-10 deg
Luff cylinders fully extended	+77 deg
Extend cylinder retracted	0%
Extend cylinder extended	100%

Radius Display

Main cylinders extended	9.5ft
-------------------------	-------

Main cylinders retracted	8.7ft
Main boom at 0deg	40ft
Extend boom fully extended	60ft

HYDROSTATIC TEST

Purpose: the purpose of this test is to test the integrity of the hydraulic system.

Disconnect and cap both winch hydraulic motor pipes. Disconnect all 5-swing drive brake lines. Raise power unit pump compensator to 150% of the rated pressure (4125 psi). Actuate and hold each crane function in both directions and inspect for leaks.

CONSTANT TENSION WINCH FUNCTION

Purpose: The purpose of this test is to test the function of the constant tension feature.

Attach a 3,000 lb weight in line with a 5000 lb dynameters to the main hook.

Raise the load.

Activate the constant tension system from the PLC display unit. The display indicator should change from “off” to “selected”.

Rotate the crane until the display changes from “selected” to “ready to arm”.

Jog the main fall joystick to the full right position to arm the constant tension function. The joystick must be in the center neutral position before arming the constant tension function. The display indicator should change to “armed”.

Lower the test weight onto a forklift and let the cable go slack. The constant tension system should automatically be activated and the display should change color to green and display 0%.

Move the test weight up and down with the forklift and measure the amount of constant tension. Check tension at minimum with joystick in the center neutral position and at maximum with joystick in the full back position.

Jog joystick.

ITEM 14: GREY_WATER_HOLDING_TANK_CLEAN_AND_INSPECT

MI_59310_JAH_0306_225A

1 SCOPE

The intent of this item is to clean and inspect the Grey Water Tank(s).

Government Furnished Property: NONE

2 REFERENCES

Coast Guard Drawings:

225-WLB 601-001, Rev J; General Arrangement Inboard & Outboard Profiles

Applicable Documents:

[MIL-PRF-1149, Rev D, 6/10/1998; Gasket Materials, Synthetic Rubber, 50 and 65 Durometer Hardness](#)

Naval Ships' Technical Manual, Chapter 593, Pollution Control

3 REQUIREMENTS

The Contractor shall provide all labor and material to accomplish the following in accordance with the General Requirements:

3.1 GENERAL

3.1.1 Provide sanitary services while work is being accomplished on this item in accordance with the General Requirements.

3.1.2 The concerned grey water tank(s) are listed in the table below. See the CG Dwg referenced above for arrangement of the concerned work areas.

3.1.3 Ship's force will pump down all tank(s) listed in the table below using the installed ejection system.

Table 3.1.A

Cutter	Tank Number	Contents	Capacity (gallons)	Low Suction (gal)
225 WLB	4-82-2-W	Grey Water	2798 gal	

3.2 INTERFERENCES

3.2.1 In the presence of the Coast Guard Inspector, inspect and operationally test all affected systems and equipment to document the original condition. The Contractor shall submit a CFR noting any discrepancies in equipment and system operation.

3.2.2 Tag-Outs – Secure, isolate, and tag-out all affected mechanical, piping, and electrical systems in accordance with the General Requirements.

CAUTION

Ensure that all personnel practice careful personal hygiene to avoid contracting hepatitis and other communicable diseases when working on the sewage system. Flammable and toxic vapors may be present in sewage, grey water sludge or other tank contaminants. These vapors may be released from the tank into the compartment's atmosphere during the cleaning process. Do not leave the tank(s) open until certified safe. Do not allow open flames, sparking electrical apparatus, electric lights, flashlights, or regular tools in or near the open tank(s) until the tank(s) are certified safe. During work on this item, ensure that sewage and sewage vapors from the piping do not contaminate adjacent compartments.

3.3 SUPPORT

3.3.1 Follow procedures and precautions set forth in NSTM Chapter 593, Section 4.

3.3.2 Provide adequate explosion proof lighting to illuminate the work area during cleaning and inspection.

3.3.3 Notify the Coast Guard Inspector prior to opening any accesses or covers to affected tank(s). Open all accesses and covers to affected tank(s) using non-sparking tools.

3.4 GAS FREE CERTIFICATION

3.4.1 Remove and dispose all remaining contents, clean, and ventilate as necessary to obtain gas free certification in accordance with the General Requirements. Dispose of all affected tank contents in accordance with local, state, and federal laws and regulations.

3.4.2 Gas free and certify the affected compartments/tanks in accordance with the General Requirements. All affected compartments/tanks must be certified as "Safe for Personnel – Safe for Hotwork" for the duration of work performed on this item.

3.4.3 Gas Free Certificates indicating the current status of each compartment/tank shall be posted on the Quarterdeck and at each open access to the compartments/tanks. Provide one copy to the Coast Guard Inspector.

3.5 TANK CLEANING

3.5.1 Plug all inlet and outlet piping in the tank to prevent contaminants from entering the tank. Use plugs with an attached lanyard, ring or other system that will ensure plugs are not lost in the pipe openings. Maintain a plug accountability log outside the tank(s) to prevent any of the installed temporary plugs from being lost inside the tank or forgotten inside at tank closure.

3.5.2 Protect tank level sensing units prior to cleaning. Wrap or cover in a manner that will not cause any damage to the sensing units during the tank cleaning process.

3.5.3 Clean all tank internal surfaces in accordance with NSTM Chapter 593.

3.5.4 Remove and dispose of all remaining residual water, sludge, marine or fungus growth, cleaning agent, and foreign material from the tank(s). Remove all foreign material and film from all tank surfaces. Wipe the interior of the tank dry before inspection.

3.6 INSPECTION – Inspect cleanliness and condition of the tank(s) listed in Table 3.1.A with the Coast Guard Inspector. Inspection shall include, but is not limited to: tank plating, structural strength members, vents, pipes and pipe hangers, tank level indicators, and coating condition. Submit a CFR.

3.7 RESTORATION

3.7.1 Upon acceptance of all tank conditions by the Coast Guard Inspector, remove all plugs, tools, and foreign objects from the sewage and grey water tank(s). Allow the Coast Guard Inspector the opportunity to verify that all rags, plugs, tools, and foreign material are removed from the tank(s) before closing.

3.7.2 Close up the grey water tank(s) renewing all gaskets on the access covers. Use new 1/8" synthetic rubber gaskets conforming to MIL-PRF-1149.

3.7.3 Clearing Tags – Restore all affected systems and clear tags in accordance with the General Requirements.

3.7.4 In the presence of the Coast Guard Inspector, the Contractor shall fill the tank(s) to vent level to check for leaks, to check seals, and for correct operation. Correct all deficiencies and retest.

3.7.5 Test all pumps and alarms in automatic and manual modes for proper operation in the presence of the Coast Guard Inspector.

3.7.6 Upon completion of testing and, in the presence of the Coast Guard Inspector, pump tank(s) to the limit of the ship's installed pumps.

3.7.7 Restore all affected systems to normal operating condition.

3.7.8 Restore the work area to a clean condition. Spills or contamination in any area shall be washed down with hot fresh water and detergent and rinsed clean with fresh water in accordance with NSTM Chapter 593.

3.8 Coordinate all inspections with the designated Coast Guard Inspector to minimize production delays.

ITEM 15: OIL CONTENT METER CALIBRATION

MI_59310_JSP_0404_225B_212

1 SCOPE

The intent of this item is to calibrate oil content meter.

Government Furnished Property: NONE

2 REFERENCES

Coast Guard Drawings:

225B-WLB 597-2, Rev B; Oily Recovery System Diagram

Applicable Documents:

CG Tech Pub 3564, 4/21/1997; Manufacturer's Instruction Book-SWBS Group(s) 593

3 REQUIREMENTS

The Contractor shall provide all labor and material to accomplish the following in accordance with the General Requirements:

3.1 GENERAL

3.1.1 Tag-outs – Secure, isolate, and tag-out all affected mechanical, piping, and electrical systems in accordance with the General Requirements.

3.1.2 Interferences – The Contractor shall remove, modify, or protect all interferences to the work. All interferences that are removed shall be tagged to facilitate proper reinstallation. Ensure that all removed equipment is kept in a clean, dry, protected location. Obtain verification from the Coast Guard Inspector for the protective measures taken for equipment not removed.

3.1.3 All electrical wiring removal shall be in accordance with the MLCPAC STD Spec 304.2.

3.1.4 The contractor shall check, clean and re-assemble Oil Content Meter in accordance with the CG Tech Pub 3564.

3.1.5 Prior to start of calibration of Oil Content Meter Calibration, the contractor shall perform power on test in accordance with the CG Tech Pub 3564 in the presence of Coast Guard Inspector and submit Condition Found Report.

3.2 OIL CONTENT METER CALIBRATION

3.2.1 The Contractor shall disconnect all wires connected to Oil Content Meter (Model OCD) on the Oil Water Separator (OWS). The OWS unit is manufactured by Coffin World Water System (Model: Heli-Sep Model 2000-OCD).

3.2.2 Record wiring information for later reconnection and submit wiring information to the Coast Guard Inspector.

3.2.3 The Contractor shall also disconnect inlet and outlet tube connected to Oil Content Meter . Temporarily plug inlet and outlet tubes connected to Oil Content Meter.

3.2.4 The Oil Content Meter (Model OCD) is manufactured by Coffin Water World Systems and requires the calibration through an authorize dealer.

3.2.4.1 The contractor shall remove the Oil Content Meter for calibration and send to Coffin Water World Systems (1732 McGraw Ave, Irvine, CA 92614 Telephone No. 949-222-5777).

3.2.4.2 The Contractor shall obtain Return Merchandise Authorization (MRA) for calibration from Coffin Water World Systems.

3.3 ACCEPTANCE

3.3.1 All acceptance tests shall be performed in the presence of the Coast Guard Inspector.

3.3.2 The contractor shall provide test report to the Coast Guard Inspector.

3.3.3 The contractor shall install new seals and gasket confirming to manufacturer's specifications in accordance with the Tech Pub 3564.

3.3.4 After calibration, the contractor shall re-installed the Oil Content Meter to original operating condition.

3.3.5 The contractor shall clean mounting panel and remove loose paint/foreign object

3.3.6 The Contractor shall reconnect wires with previously recorded information and reconnect inlet/outlet tubes to Oil Content Meter.

3.3.7 The Contractor shall verify all piping connected to Oil Content Meter for leak and rectify as appropriate.

3.3.8 The Contractor shall perform power on test on the Oil Content Meter in the presence of the Coast Guard Inspector in accordance with the CG Tech Pub 3564 and verify that status indicator is illuminated..

3.4 DATA SHEET

3.4.1 The contractor shall provide Data Sheet of calibrated Oil Content Meter with accuracy and affix a label to the meter showing Calibration date, Due date for next calibration and name of calibration laboratory. The calibration label shall be affixed on the front or the back of the meter so that it is clearly visible without interference with meter reading. A transparent tape shall be placed on all paper calibration labels.

3.4.2 The contractor shall submit two copies of Data Sheet to the Coast Guard Inspector within five days of calibration.

3.5 RESTORATION

3.5.1 CLEARING TAGS – Restore all systems and clear tags in accordance with the General Requirements.

3.5.2 Restore all affected equipments and system to normal operating condition.

3.5.3 Restore affected work areas to a clean condition.

3.5.4 Coordinate all inspections and tests with the Coast Guard Inspector to minimize the production delays.

3.6 OIL CONTENT METER DIAGRAMS

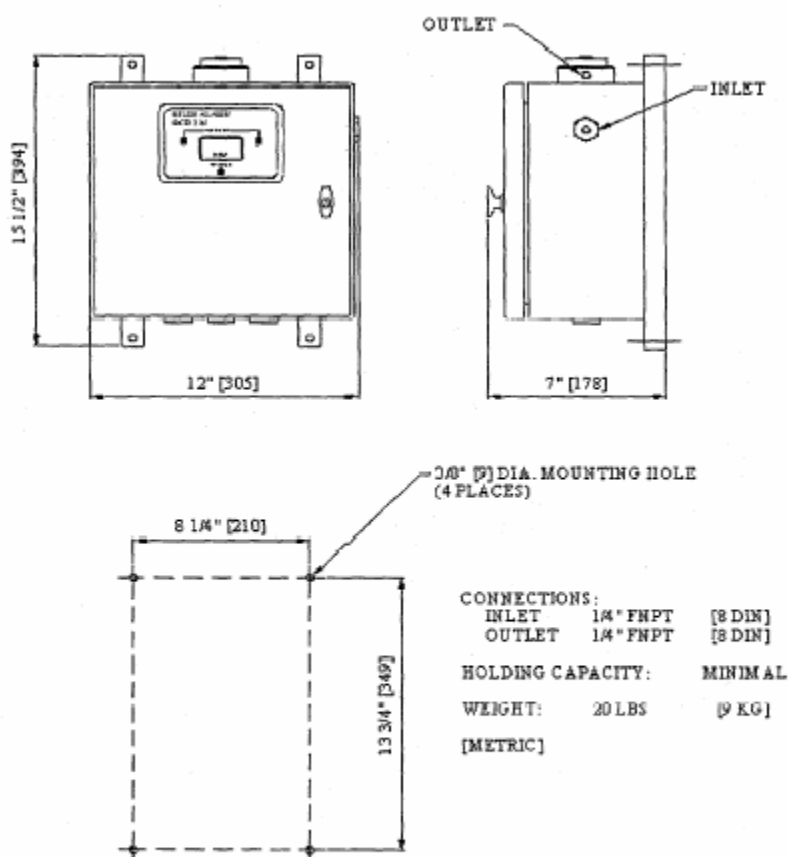
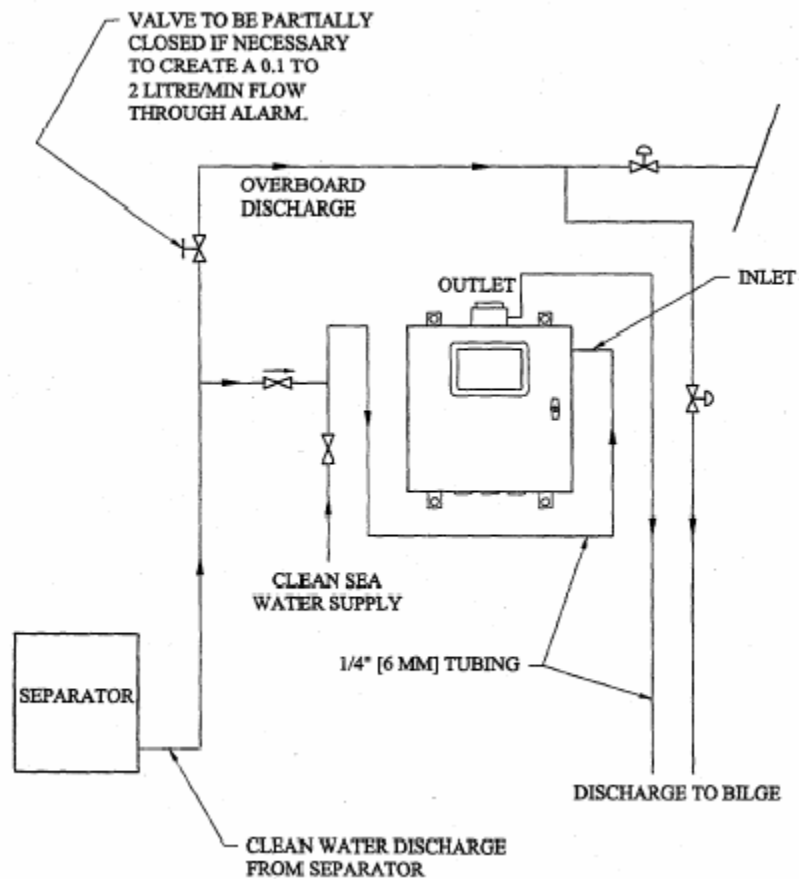


Figure 1

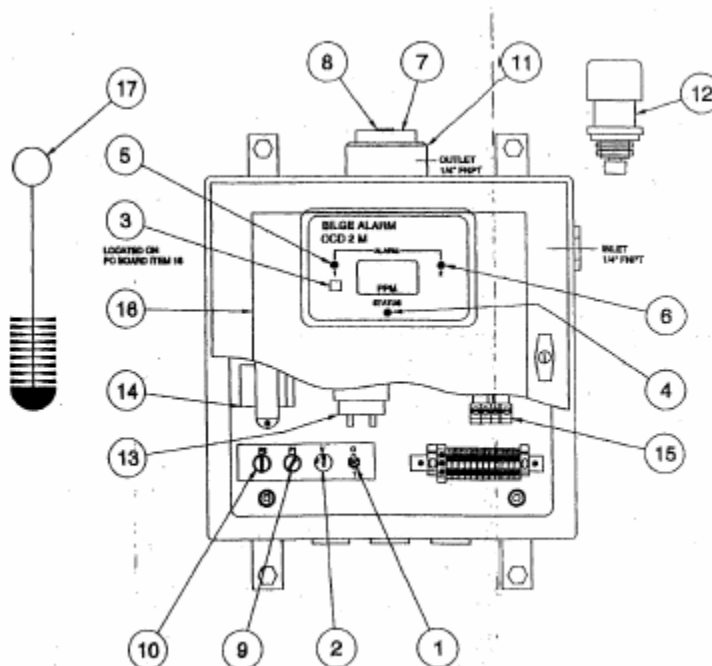
OIL CONTENT METER PANEL



OIL CONTENT METER PIPING DIAGRAMS

ITEM COMPONENT NAME

1. ON/OFF Switch
2. Voltage Selector Switch
3. Set Zero Button
4. Status Indicator
5. Alarm 1 Indicator
6. Alarm 2 Indicator
7. Cell Cap
8. Flow Adjuster
9. Fuse 1
10. Fuse 2
11. Outlet Block
12. Optional Manual Clean Unit
13. Power Filter
14. Power Transformer
15. Alarm Relay
16. P.C. Board
17. Cell Cleaning Brush



OIL CONTENT METER COMPONENTS

ITEM 16: SEWAGE HOLDING TANK AND ATMOSPHERIC TANK CLEAN & INSPECT

MI_59310_JAH_0306_225B

1 SCOPE

The intent of this item is to clean and inspect the Sewage Holding Tank(s) and the Sewage Atmospheric Tank.

Government Furnished Property: NONE

2 REFERENCES

Coast Guard Drawings:

225B-WLB 601-2, Rev A, Booklet of General Drawings
225B-WLB 593-1, Rev C, Sewage and Waste Water System Diagram
225B-WLB 593-9, Rev A, Sewage Holding Tank

Applicable Documents:

[MIL-PRF-1149, Rev D, 6/10/1998; Gasket Materials, Synthetic Rubber, 50 and 65 Durometer Hardness](#)

Naval Ships' Technical Manual, Chapter 593, Pollution Control

3 REQUIREMENTS

The Contractor shall provide all labor and material to accomplish the following in accordance with the General Requirements:

3.1 GENERAL

3.1.1 Provide sanitary services while work is being accomplished on this item in accordance with the General Requirements.

3.1.2 The concerned work area is the sewage holding tank and the atmospheric sewage tank. See the CG Dwgs referenced above for arrangement of the concerned work areas.

3.1.3 Ship's force will pump down the tanks listed in the table below using the installed ejection system through the shore tie connection. Ship's force will flush the tanks with water a minimum of three (3) times and pump the tanks down to the limit of the ship's installed pumps.

Cutter	Tank	Contents	Capacity (gallons)
225B	3-18-1-Q	Sewage	1,772
	Sewage Atmospheric Tank	Sewage	300

3.2 INTERFERENCES

3.2.1 In the presence of the Coast Guard Inspector, inspect and operationally test all affected systems and equipment to document the original condition. The Contractor shall submit a CFR noting any discrepancies in equipment and system operation.

3.2.2 Tag-Outs – Secure, isolate, and tag-out all affected mechanical, piping, and electrical systems in accordance with the General Requirements.

CAUTION

Ensure that all personnel practice careful personal hygiene to avoid contracting hepatitis and other communicable diseases when working on the sewage system. Flammable and toxic vapors may be present in sewage, grey water sludge or other tank contaminants. These vapors may be released from the tank into the compartment's atmosphere during the cleaning process. Do not leave the tank open until certified safe. Do not allow open flames, sparking electrical apparatus, electric lights, flashlights, or regular tools in or near the open tank until the tank is certified safe. During work on this item, ensure that raw sewage and sewage vapors from the piping do not contaminate adjacent compartments.

3.3 SUPPORT

3.3.1 Follow procedures and precautions set forth in NSTM Chapter 593, Section 4.

3.3.2 Provide adequate explosion proof lighting to illuminate the work area during cleaning and inspection.

3.3.3 Notify the Coast Guard Inspector prior to opening any accesses or covers to tank. Open all accesses and covers to the tank using non-sparking tools.

3.4 GAS FREE CERTIFICATION

3.4.1 Remove and dispose all remaining contents, clean, and ventilate as necessary to obtain gas free certification in accordance with the General Requirements. Dispose of all tank contents in accordance with local, state, and federal laws and regulations.

3.4.2 Gas free and certify the affected compartments/tanks as required in accordance with the General Requirements. All affected compartments/tanks must be certified as "Safe for personnel" for the duration of work performed on this item. The affected compartments are the sewage tank and the sewage atmospheric tank.

3.4.3 Gas Free Certificates indicating the current status of each compartment/tank shall be posted on the Quarterdeck and at each open access to the affected compartments/tanks. Provide one copy to the Coast Guard Inspector.

3.4.4 Contractor shall take all necessary precautions to ensure that sewage contaminants are contained within the sewage treatment room.

3.5 TANK CLEANING (SEWAGE TANK)

Note: The sewage tank is a stand alone tank and is not a part of the ship's structure.

3.5.1 Drain the sewage tank. (S/F will pump down sewage tank to low suction prior to opening sewage tank.)

3.5.2 Remove and clean the operating level switches associated with the tank. Clean and protect tank level sensing units prior to general tank cleaning. Clean and wrap or cover in a manner that will not cause any damage to the sensing units during the tank cleaning process.

3.5.3 Open all handhole and manhole connections on the sewage tank.

3.5.4 Water blast the tank interiors using heated high pressure water jet (3000 psi). Waterjet through existing handhole/manhole connections to the furthest extent practicable to remove grease build-up within the tank. Clean all tank internal surfaces in accordance with NSTM Chapter 593. Completely clean sewage tank of all residual deposits.

3.5.4.1 Collect and properly dispose of all waste water and debris generated during tank cleaning.

3.5.4.2 Remove and dispose of all remaining residual water, sludge, marine or fungus growth, cleaning agent, and foreign material from the tank. Remove all foreign material and film from all tank surfaces.

3.5.5 After cleaning tank interiors, inspect tank interiors for cleanliness in the presence of the Coast Guard Inspector.

3.5.6 Reinstall tank level switches and handhole/manhole plates using new gaskets and fasteners.

3.5.7 After tank has been reassembled, demonstrate proper operation of all level switches to the Coast Guard Inspector.

3.6 TANK CLEANING (ATMOSPHERIC SEWAGE TANK)

Note: The atmospheric sewage tank is a stand alone tank and is not a part of the ship's structure.

3.6.1 Drain the sewage atmospheric tank.

3.6.2 Remove and clean the operating level switches associated with the tank.

3.6.3 Open all handhole connections on the sewage atmospheric tank.

3.6.4 Water blast the tank interiors using heated high pressure water jet (3000 psi). Waterjet through existing handhole connections to the furthest extent practicable to remove grease build-up within the tank.

3.6.4.1 Collect and properly dispose of all waste water and debris generated during tank cleaning.

3.6.5 After cleaning tank interiors, inspect tank interiors for cleanliness in the presence of the Coast Guard Inspector.

3.6.6 Reinstall tank level switches and handhole plates using new gaskets and fasteners.

3.6.7 After tank has been reassembled, demonstrate proper operation of all level switches to the Coast Guard Inspector.

3.7 INSPECTION

3.7.1 Inspect cleanliness and condition of the tank listed in the table with the Coast Guard Inspector. Inspection shall include, but is not limited to: tank plating, structural strength members, vents, pipes and pipe hangers, tank level indicators, and coating condition. Submit a CFR documenting the findings.

3.8 RESTORATION

3.8.1 Upon acceptance of all tank conditions by the Coast Guard Inspector, remove all plugs, tools, and foreign objects from the sewage tank. Allow the Coast Guard Inspector the opportunity to verify that all rags, plugs, tools, and foreign material are removed from the tank before closing.

3.8.2 Close up the sewage tank renewing all gaskets on the access covers. Use new 1/8" synthetic rubber gaskets conforming to MIL-PRF-1149.

3.8.3 Clearing Tags – Restore all affected systems and clear tags in accordance with the General Requirements.

3.8.4 In the presence of the Coast Guard Inspector, the Contractor shall fill the sewage tank with water to vent level to check for leaks, to check seals, and for correct operation. Correct all deficiencies and retest.

3.8.5 Test all pumps and alarms in automatic and manual modes for proper operation in the presence of the Coast Guard Inspector.

3.8.6 After sewage atmospheric tank has been reassembled, demonstrate proper operation of all level switches to the Coast Guard Inspector.

3.8.7 Upon completion of testing and, in the presence of the Coast Guard Inspector, pump tank to the limit of the ship's installed pumps.

3.8.8 Restore all affected systems to normal operating condition.

3.8.9 Restore the work area to a clean condition. Sewage spills or contamination in any area shall be washed down with hot fresh water and detergent, rinsed clean with fresh water in accordance with NSTM Chapter 593.

3.9 Coordinate all inspections with the designated Coast Guard Inspector to minimize production delays.

ITEM 17: DECK COVERINGS (INTERIOR POLYMERIC) RESEAL

MI_63400_GBS_0604_225B

1 SCOPE

The intent of this item is to reseal designated interior polymeric deck coverings.

Government Furnished Property: NONE

2 REFERENCES

Coast Guard Drawings:

225-WLB 601-001, Rev J; General Arrangement Inboard & Outboard Profiles

Applicable Documents:

[MIL-PRF-24613, Amd 2, Not 1; Deck Covering Materials, Interior, Cosmetic Polymeric](#)
[MLCPAC Standard Specification 634, 3/1/2000; Deck Covering Renewal](#)

3 REQUIREMENTS

The Contractor shall provide all labor and material to accomplish the following in accordance with the General Requirements:

3.1 GENERAL

3.1.1 The concerned work areas are listed in Table 3.1.A. See the CG Dwg(s) referenced above for arrangement and details of the work area.

TABLE 3.1.A

Item No.	Compt. No.	Approx. sq ft	Item No.	Compt. No.	Approx. sq ft	Item No.	Compt. No.	Approx. sq ft
1	01-60-0-L	276	8	01-79-0-L	208	15	02-61-2-L	23
2	01-66-2-L	100	9	01-85-2-Q	24	16	02-63-1-L	45
3	01-70-2-Q	20	10	01-68-1-L	252	17	02-66-1-L	57
4	01-57-4-L	60	11	03-66-0-L	24	18	02-66-2-L	30
5	01-71-2-L	60	12	02-57-01-L	244	19	02-66-4-L	39
6	01-88-1-L	64	13	02-57-2-L	30	20	02-69-2-Q	20
7	01-84-2-L	54	14	02-59-2-L	20	-	-	-

3.1.2 In the presence of the Coast Guard Inspector, inspect and test all affected equipment and systems to document original condition. Submit a CFR for each space noting any discrepancies in equipment and system operation.

3.1.3 Tag-Outs – Secure, isolate, and tag-out all affected mechanical, piping, and electrical systems in accordance with the General Requirements.

3.2 INTERFERENCES – Remove or protect all interferences. Obtain verification from the Coast Guard Inspector for protective measures. Interferences included but are not limited to: fittings and equipment mounted to the decks.

3.3 REQUIREMENTS – Follow all general deck covering and fire prevention requirements stated in MLCPAC Std Spec 634.

3.4 DECK COVERING RESEAL

3.4.1 Remove cove base molding from the work areas and retain for later reinstallation.

3.4.2 Thoroughly clean the work areas listed in Table 3.1.A of surface of oil, grease, dirt moisture, loose decking material and other surface contaminants.

3.4.3 In the presence of the Coast Guard Inspector, conduct a visual inspection of all clean decks in the work areas. Submit a CFR to the Coast Guard Inspector.

3.4.4 Lightly scuff the deck surface with a medium grit sandpaper (consisting of grit 80 to 120).

3.4.5 Clean work area of sanding debris. Surfaces shall be completely free of corrosion products, mill scale, dirt, oil, grease, moisture, deteriorated paint, and other surface contaminants

3.4.6 Reseal all deck coverings in the work areas listed in the table above in accordance with NSTM Chapter 634 and manufacturer's instructions. Deck Coverings are MIL-PRF-24613, Type I, Class 2 (Epoxy with color flakes)/MIL-PRF-24613, Type III. Submit a CFR of all deck areas prior to resealing.

NOTE: Sealer coats shall be installed as thin as possible while still coating the entire surface so that a slip resistant orange peel effect is present on the finished deck.

3.4.7 Install cove base molding in all work areas in accordance with MLCPAC Std Spec 634.

3.5 DECK COVERING REPAIR

3.5.1 Prior to resealing, Contractor shall complete repairs to the polymeric deck coverings in the Compartment, repair approximately 50 sq ft total, approximately, as designated by the Coast Guard Inspector. Repairs shall be completed in accordance with manufacturer's instructions. Replace deck with the same base color and the same color flakes as the existing deck.

3.6 COMPARTMENT RESTORATION

3.6.1 Restore all interferences. Restore all work areas to a clean condition.

3.6.2 Clearing Tags – Restore all affected systems and clear tags in accordance with the General Requirements.

3.7 Coordinate all inspections with the designated Coast Guard Inspector to minimize production delays.

ITEM 18: TEMPORARY SERVICES, DOCKSIDE, HOME PIER

MI_86351_RRY_0107_225_212

1 SCOPE

The intent of this item is to make the cutter safe and habitable during the repair availability while work is completed at the cutter's home pier.

Government Furnished Property: NONE

2 REFERENCES

Coast Guard Drawings: NONE

Applicable Documents:

[MLCPAC Standard Specification 074, Welding and Allied Processes, 3/21/2003](#)

3 REQUIREMENTS

The Contractor shall provide all labor and material to accomplish the following in accordance with the General Requirements:

3.1 GENERAL

3.1.1 The Contractor shall make all temporary service connections and provide equipment by the end of the first working day of the contract. All connections shall be made so that the hazards to passing personnel are minimal. The Contractor shall provide the services continuously for the entire repair period specified in the contract, plus any extensions thereof that are not resulting from added work. The temporary services shall be disconnected only when necessary to shift the cutter, and shall be restored for normal use within one hour after completion of the evolution. The Contractor shall notify the Coast Guard Inspector a minimum of 24 hours in advance of any scheduled disruption of temporary services.

3.1.2 The Coast Guard Inspector will provide cutter personnel, if necessary, to help the Contractor identify locations aboard the cutter where the Contractor may connect to the cutter's systems for providing services to the cutter.

3.1.3 Monitor all temporary services to identify deficient services before failures occur, and promptly restore any disruptions of services. Upon departure of cutter from facility, the Contractor shall disconnect all temporary services.

3.1.4 The Contractor shall provide all services required for the completion of all Definite and Optional Items. These services include, but are not limited to, compressed air, crane services, garbage and refuse, phones, and portable head facilities. These services are for the Contractor's use only. At no time is the Contractor to jumper into the ship's services.

3.2 ELECTRICAL POWER

3.2.1.1 Electrical power (generally, 440V) will be made available to the Contractor at the pier. The Contractor shall be responsible for providing own matching connectors. The Contractor shall meter all Contractor used

electrical power in the performance of work completed during this availability at the pier. Upon the completion of the availability the Contractor shall submit a CFR documenting the power consumption (kW-hrs) during the completion of work. Metering of electrical power is for Coast Guard information only and the Contractor will not be billed for electrical power.

NOTE: Since pier configurations vary greatly, it is highly recommended that the Contractor conduct a shipcheck to determine what equipment will be required to complete the scope of work in this availability package.

3.3 ARC WELDING GROUNDING

3.3.1 Two suitable grounding cables, one forward and one aft, shall be installed by the Contractor to ground the cutter's hull whenever electric arc welding is to be performed on board the cutter. The grounding cable installation shall meet the requirements of MLCPAC Std Spec 074. Install these cables at arrival and remove them before departure, restoring the disturbed areas to original condition.

3.3.2 Grounding cables smaller in diameter than 85 MCM (No. 1 AWG) are not permitted. All grounding cables shall have completely insulated copper conductors with cable lugs. The cable lug contact area shall be thoroughly cleaned to base metal and secured tightly. Grounding cables shall not be permitted to drop overboard into the water.

3.3.3 Arc current terminals on electric welding machines shall be insulated from earth and other structures. An arc-welding machine shall not be connected to more than one vessel at a time. Prior to connecting the welding ground cables to the cutter, use an insulation resistance tester (test voltage no less than arc open circuit voltage) to measure and log the insulation resistance readings. All measurements shall be taken in the presence of the Coast Guard Inspector. The insulation resistance between the welding ground cables (connected to the welding machine) and the welding machine frame shall be no less than 0.1 megohms. Repeat this test whenever the grounding leads are disconnected from the cutter, the welding machine is replaced or repaired, or the cutter is relocated to a different berth or drydock.

3.3.4 Ensure that Ship's Force has disconnected any cabling to sensitive electronic components (e.g., computerized main propulsion engine controls) that may be damaged by induced voltages during welding. Notify Ship's Force to reconnect such cables after arc welding is completed and the grounding cables are removed.

3.4 COMPRESSED AIR

3.4.1 Provide dry compressed air via flexible hoses to a manifold aboard the cutter as designated in the enclosed figure "Temporary Services, Dockside, Home Pier." The manifold shall have at least six 3/4" outlets. Provide shutoff valves for the main lines at the manifold and for each 3/4" outlet. Provide air from 0800 to 2000 daily (7 days a week).

3.5 SEWAGE AND GRAY WATER

3.5.1 During the completion of Definite Item(s) "11, 14" and "16" provide temporary sanitary facilities in accordance with paragraph 3.10 of the General Requirements.

3.6 FIRE EXTINGUISHERS

3.6.1 Provide fully charged fire extinguishers as designated in the enclosed figure "Temporary Services, Dockside, Home Pier" to be used by the Coast Guard. Refill any discharged extinguishers by the start of the next work day.

3.7 GARBAGE AND REFUSE

3.7.1 Provide sufficient dumpsters pierside for the cutter's crew to dispose of garbage and refuse. The containers shall be emptied daily and kept clean to prevent them from becoming a health hazard. The Contractor shall meet all local ordinances to ensure that all garbage and refuse is delivered to appropriate disposal facility.

3.8 PROTECTIVE DECK COVERING

3.8.1 Provide and install deck coverings bulkhead to bulkhead with no deck showing on the edges in accordance with General Requirements, and remove the same upon completion of the availability or at the request of the Coast Guard Inspector. Cover all decks in work areas and access routes to work areas. Tape all seams and edges with duct tape. The Contractor shall keep the protective covering in good repair for the duration of the contract and shall repair with like material, before contract completion, all permanently installed deck and deck covering damaged by yard personnel. The Contractor shall inspect the protective covering each morning, and shall repair any deficient areas, prior to commencing work.

3.8.2 If the cutter is equipped with a flight deck, the Contractor shall cover the entire area of the flight deck and hangar with plywood.

3.9 INSPECTIONS

3.9.1 Coordinate all inspections with the designated Coast Guard Inspector to minimize production delays.

225' WLB Temporary Service Requirements, Dockside Home Pier

Shore Tie Requirements

Service	Connection	Demand	Shore Tie Location	Quantity
Compressed Air	N/A	100 psig	N/A	250 CFM

Intermittent Services

Service	Quantity	Requirements
Fire Extinguishers	3: 15# CO ₂ 5: 2.5 gallon H ₂ O	N/A

Temporary Facilities

Service	Quantity	Special Requirements
Refrigerated Storage	3 spaces	Meat Freezer: 110 ft ³ , <=0°F Dairy Box: 100 ft ³ , 30-34°F Vegetable Box: 100 ft ³ , 34-40°F

